NOTIFICATION OF ADDENDUM

ADDENDUM NO. 2

DATED 4/02/2010

Control	**0015-06-071, ETC.**
Project	**STP 2009(531)ES, ETC.**
Highway	**IH 35**
County	**BELL**

Ladies/Gentlemen:

Attached please find an addendum on the above captioned project. Included in the attachment is an adendum notification which details the changes and the respective proposal pages which were added and/ or changed.

Except for new bid insert pages, it is unnecessary to return any of the pages attached.

Bid insert pages must be returned with the bid proposal submitted to the Department, unless your firm is submitting a bid using a computer print out. The computer print out must be changed to reflect the new bid item information.

Contractors and material suppliers, etc. who have previously been furnished informational proposals are not being furnished a copy of the addendum. If you have a subcontractor on the above project, please advise them of this addendum. Acknowledgment of this addendum is not requested if your company has been issued a proposal stamped “This Proposal Issued for Informational Purposes.”

You are required to acknowledge receipt of this addendum on the Addendum Acknowledgement form contained in your bid proposal by placing a mark in the box next to the respective addendum.

Failure to Acknowledge receipt of this addendum in your bid proposal will result in your bid not being read.

04/99

SUBJECT: PLANS AND PROPOSAL ADDENDUMS
PROJECT: STP 2009(531)ES CONTROL: 0015-06-071
COUNTY: BELL
LETTING: 04/06/2010
REFERENCE NO: 0401

PROPOSAL ADDENDUMS

_ PROPOSAL COVER
X BID INSERTS (SH. NO.: 6,7,17,18,21,22,27,31,42))
X GENERAL NOTES (SH. NO.: C,L,M,N,O,V to BBB)
)
_ SPEC LIST (SH. NO.:)
_ SPECIAL PROVISIONS:
ADDED:

DELETED:

_ SPECIAL SPECIFICATIONS:
ADDED:

DELETED:

X OTHER: Plans 2,63A,63E-G,63J-Z,64A,64C-F,64H,65A,66-68,68A,70,71A,
72,74,76,78,80,82,84,86,88,90,116-120,151,154,170,174,200,

DESCRIPTION OF ABOVE CHANGES
(INCLUDING PLANS SHEET CHANGES)

NEW WAGE RATE(S) Y

Plans continued: 204,781,957,967,1109,1118,1198,1200,1204,1210,1231,
1233,1241,1255,1257,1264,1269,1272,1327,1365,1372,1374,1378,
1450,1487,1945,1986,2106

Bid Inserts
Page 6-43 Item 416-2018 quantity change.
Page 7-43 Item 416-2022 quantity change.
Delete Item 420-2013.
Add Item 416-2023.
Page 17-43 Item 512-2035 quantity change.
Page 18-43 Item 530-2010 quantity change.
Page 21-43 Item 618-2018 quantity change.
Page 22-43 Item 618-2035 quantity change.
Page 27-43 Items 662-2074 and 662-2075 quantity change.
Page 31-43 Item 740-2005 quantity change.
Page 42-43 Add Item 6834-2001.
Item 6834-2002 quantity change.

General Notes
Sheet C Table Item 740 revised quantity.
Sheet L Item 8 information revised.
Sheet M Item 100,104,&496 revised.

DESCRIPTION OF ABOVE CHANGES (CONTINUED)
(INCLUDING PLANS SHEET CHANGES)

Sheet N Item 132 Added information.
Sheet O Text shift.
Sheets V and W Item 420 revised. Text shift.
Sheets X and Y Item 427 revised.
Sheets Z to BB Text shift.
Sheet BB Item 450 and Item 423,450,514 have revisions.
Sheet CC to TT Text shift.
Sheet UU Item 740 revised.
Sheet VV and WW Text shift.
Sheet XX Item 6834 revised.
Sheet YY and ZZ Text shift.
Sheet AAA and BBB New sheets due to added text.

Proposal WAGE RATE - Highway changed. New Effective Date.

Plans

Sheet 2 Volume I index revised General Notes listing.
Sheet 63A(C) Table revised for Item 740.
Sheet 63E(L) Section Item 8 revised.
Sheet 63F(M) Section Item 100,104,496 revised.
(N) Section Item 132 revised.
Sheet 63G Text shift.
Sheet 63J(V) Section Item 420 revised.
Sheet 63K(W) Section Item 420 revised.
(X) Section Item 423 revised.
Sheet 63L(Y) and (Z) Section Item 427 revised.
Sheet 63M(AA) Section Item 427 revised.
Sheet 63N(DD) Section Item 450 revised.
Sheet 63-O(EE) Section Item 423,450,514 revised.
Sheets 63P to 63W Text shift.
Sheet 63X(WW) Section Item 740 revised.
Sheet 63Y(ZZ) Section Item 6834 revised.
Sheet 63Z New sheet due to revisions.
Sheets 64A,64C-F,64H Items revised as noted.
Sheet 65A Added Item 6834-2001 and revised 6834-2002.
Sheets 66-68,68A,70,71A,72,74,76,78,80,82,84,86, and 88
Added Item 6834-2001.
Sheet 90 Added Item 6834-2001 and revised 6834-2002.
Sheets 116 to 120 Note added.
Sheet 151 Changed quantity for Item 530-2010.
Sheet 154 Note added. Item 740-2005 quantity change.
Sheets 170,174, and 200 Drill shaft quantity changes.
Sheets 204 and 781 Volume II and III indexes revised for
General Notes listing.
Sheet 957 Revised callout on plan view.
Sheet 967 Widen driveway.
Sheet 1109 Revised profile.
Sheet 1118 Revised driveway D-S30.
Sheets 1198,1200,1204,1210,1231,1233,1241
Revised riprap and anti-graffiti coat quantities
Sheet 1255 Revised retaining wall quantity.
Sheet 1257 and 1264 Revised riprap and anti-graffiti coat
quantities.
Sheet 1269 Revised rail, riprap, and anti-graffiti coat.

Sheet 1272 Revised riprap and anti-graffiti coat.

DESCRIPTION OF ABOVE CHANGES (CONTINUED)
(INCLUDING PLANS SHEET CHANGES)

Sheet 1327 Volume IV index revised for General Notes.
Sheets 1365,1372,1374,1378,1450, and 1487
Moved Inlet 6AA3.
Sheet 1945 Revised sheet.
Sheet 1986 Volume V index revised for General Notes.
Sheet 2106 Added 54-inch drill shaft quantity.

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	100	2002	002	PREPARING ROW DOLLARS and CENTS	STA	356.000	1
	104	2001		REMOVING CONC (PAV) DOLLARS and CENTS	SY	65,901.000	2
	104	2009		REMOVING CONC (RIPRAP) DOLLARS and CENTS	SY	1,102.000	3
	104	2022		REMOVING CONC (CURB AND GUTTER) DOLLARS and CENTS	LF	22.000	4
	104	2023		REMOVING CONC (CTB) DOLLARS and CENTS	LF	70.000	5
	110	2001		EXCAVATION (ROADWAY) DOLLARS and CENTS	CY	1,651,249.00	6
	110	2002		EXCAVATION (CHANNEL) DOLLARS and CENTS	CY	7,480.000	7
	132	2006		EMBANKMENT (FINAL)(DENS CONT)(TY C) DOLLARS and CENTS	CY	814,446.000	8
	160	2003		FURNISHING AND PLACING TOPSOIL (4") DOLLARS and CENTS	SY	1,121,792.00	9
	162	2002		BLOCK SODDING DOLLARS and CENTS	SY	3,707.000	10
	164	2007	002	BROADCAST SEED (PERM) (URBAN) (CLAY) DOLLARS and CENTS	SY	1,121,792.00	11

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	164	2029	002	CELL FBR MLCH SEED(TEMP)(WARM) DOLLARS and CENTS	SY	560,896.000	12
	164	2031	002	CELL FBR MLCH SEED(TEMP)(COOL) DOLLARS and CENTS	SY	560,896.000	13
	168	2001		VEGETATIVE WATERING DOLLARS and CENTS	MG	18,399.000	14
	169	2001	002	SOIL RETENTION BLANKETS (CL 1) (TY A) DOLLARS and CENTS	SY	200,000.000	15
	169	2003	002	SOIL RETENTION BLANKETS (CL 1) (TY C) DOLLARS and CENTS	SY	10,000.000	16
	169	2006	002	SOIL RETENTION BLANKETS (CL 2) (TY F) DOLLARS and CENTS	SY	100,000.000	17
	180	2001		WILDFLOWER SEEDING DOLLARS and CENTS	AC	116.680	18
	192	2023		PLANT MATERIAL (15 GAL) (TREE) DOLLARS and CENTS	EA	197.000	19
	192	2024		PLANT MATERIAL (30 GAL) (TREE) DOLLARS and CENTS	EA	110.000	20
	193	2001		PLANT MAINTENANCE DOLLARS and CENTS	MO	12.000	21
	193	2006		VEGETATIVE WATERING DOLLARS and CENTS	MG	324.000	22

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	ITEM NO	DESC CODE	S.P. NO.				
	247	2044	038	FL BS (CMP IN PLC)(TY A GR 4)(FNAL POS) DOLLARS and CENTS	CY	84,682.000	23
	247	2060	038	FL BS (CMP IN PLC)(TY E GR 4)(FNAL POS) DOLLARS and CENTS	CY	5,582.000	24
	251	2267		REWRK BS MTL(TY C)(7"TO 15")(STKPL) DOLLARS and CENTS	SY	161,943.000	25
	251	2268		REWRK BS MTL(TY C)(12"TO 21")(STKPL) DOLLARS and CENTS	SY	331,452.000	26
	276	2112		CM TRT(PT MX)(CL N)(TY E)(GR 4)(FN POS) DOLLARS and CENTS	CY	104,400.000	27
	305	2002		SALV, HAUL & STKPL RCL APH PV (0 TO 2") DOLLARS and CENTS	SY	65,530.000	28
	305	2006		SLV, HAUL & STKPL RCL APH PV (8 TO 10") DOLLARS and CENTS	SY	29,707.000	29
	305	2008		SALV, HAUL & STKPL RCL APH PV (0"TO 4") DOLLARS and CENTS	SY	551,027.000	30
	305	2050		SALV,HAUL & STKPL RCL ASPH PV(3"TO 6") DOLLARS and CENTS	SY	315,746.000	31
	310	2005		PRIME COAT (MC-30 OR AE-P) DOLLARS and CENTS	GAL	58,422.000	32
	316	2010		ASPH (CRS-2) DOLLARS and CENTS	GAL	145,726.000	33

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	ITEM NO	DESC CODE	S.P. NO.				
	316	2378		AGGR (TY-D GR-4 OR TY-L GR-4)(SAC-B) DOLLARS and CENTS	CY	3,097.000	34
	316	2616		ASPH(AC-15P,AC-20XP,AC10-2TR,AC-12-5TR) DOLLARS and CENTS	GAL	28,712.000	35
	341	2011	024	D-GR HMA(QCQA) TY-B PG64-22 DOLLARS and CENTS	TON	52,622.000	36
	341	2014	024	D-GR HMA(QCQA) TY-B PG70-22 DOLLARS and CENTS	TON	27,881.000	37
	341	2050	024	D-GR HMA(QCQA) TY-C PG70-22 DOLLARS and CENTS	TON	20,800.000	38
	341	2064	024	D-GR HMA(QCQA) TY-C SAC-B PG76-22 DOLLARS and CENTS	TON	5,092.000	39
	341	2106	024	D-GR HMA(QCQA) TY-D PG64-22 DOLLARS and CENTS	TON	43,320.000	40
	341	2252	024	D-GR HMA(QCQA) TY-D PG64-22(LEVEL-UP) DOLLARS and CENTS	TON	35.000	41
	342	2002	002	PFC (ASPHALT) PG76-22 DOLLARS and CENTS	TON	516.000	42
	342	2006	002	PFC (AGGREGATE)(PG76 MIX) SAC-A DOLLARS and CENTS	TON	7,417.000	43
	346	2006		STONE-MTRX-ASPH SMA-C SAC-B PG76-22 DOLLARS and CENTS	TON	8,012.000	44

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	ITEM NO	DESC CODE	S.P. NO.				
	346	2018		STONE-MTRX-ASPH SMA-D SAC-B PG76-22 DOLLARS and CENTS	TON	6,468.000	45
	351	2008		FLEXIBLE PAVEMENT STRUCTURE REPAIR(12") DOLLARS and CENTS	SY	525.000	46
	351	2019		FLEXIBLE PAVEMENT STRUCTURE REPAIR(3") DOLLARS and CENTS	SY	250.000	47
	354	2131		PLANE ASPH CONC PAV (1.75") DOLLARS and CENTS	SY	67,746.000	48
	356	2021		PAV JT UNDERSEAL (24") DOLLARS and CENTS	LF	2,089.000	49
	360	2003	003	CONC PVMT (CONT REINF-CRCP)(10") DOLLARS and CENTS	SY	80,938.000	50
	360	2005	003	CONC PVMT (CONT REINF-CRCP)(12") DOLLARS and CENTS	SY	49,056.000	51
	360	2008	003	CONC PVMT (CONT REINF-CRCP)(15") DOLLARS and CENTS	SY	464,450.000	52
	368	2006		TERMINAL ANCHOR JOINT (TY I) DOLLARS and CENTS	LF	262.000	53
	368	2007		TERMINAL ANCHOR JOINT (TY II) DOLLARS and CENTS	LF	751.000	54

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	ITEM NO	DESC CODE	S.P. NO.				
	400	2005		CEM STABIL BKFL DOLLARS and CENTS	CY	9,201.000	55
	400	2006		CUT & RESTORING PAV DOLLARS and CENTS	SY	65.000	56
	402	2001		TRENCH EXCAVATION PROTECTION DOLLARS and CENTS	LF	39,830.000	57
	403	2001		TEMPORARY SPL SHORING DOLLARS and CENTS	SF	10,189.000	58
	416	2001	001	DRILL SHAFT (18 IN) DOLLARS and CENTS	LF	202.000	59
	416	2004	001	DRILL SHAFT (36 IN) DOLLARS and CENTS	LF	4,837.000	60
	416	2005	001	DRILL SHAFT (42 IN) DOLLARS and CENTS	LF	722.000	61
	416	2006	001	DRILL SHAFT (48 IN) DOLLARS and CENTS	LF	1,822.000	62
	416	2008	001	DRILL SHAFT (60 IN) DOLLARS and CENTS	LF	472.000	63
	416	2015	001	DRILL SHAFT (NON-REINFORCED)(12 IN) DOLLARS and CENTS	LF	14.000	64
	416	2018	001	DRILL SHAFT (SIGN MTS)(24 IN) DOLLARS and CENTS	LF	12.000	65

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	ITEM NO	DESC CODE	S.P. NO.				
	416	2020	001	DRILL SHAFT (SIGN MTS)(36 IN) DOLLARS and CENTS	LF	36.000	66
	416	2021	001	DRILL SHAFT (SIGN MTS)(42 IN) DOLLARS and CENTS	LF	191.000	67
	416	2022	001	DRILL SHAFT (SIGN MTS)(48 IN) DOLLARS and CENTS	LF	35.000	68
	416	2023	001	DRILL SHAFT (SIGN MTS)(54 IN) DOLLARS and CENTS	LF	20.000	69
	416	2026	001	DRILL SHAFT (HIGH MAST POLE)(60 IN) DOLLARS and CENTS	LF	360.000	70
	416	2029	001	DRILL SHAFT (RDWY ILL POLE) (30 IN) DOLLARS and CENTS	LF	480.000	71
	416	2032	001	DRILL SHAFT (TRF SIG POLE) (36 IN) DOLLARS and CENTS	LF	208.000	72
	420	2003	002	CL C CONC (ABUT) DOLLARS and CENTS	CY	846.100	73
	420	2004	002	CL C CONC (BENT) DOLLARS and CENTS	CY	796.400	74
	420	2006	002	CL C CONC (RAIL FOUNDATION) DOLLARS and CENTS	CY	121.000	75
	420	2010	002	CL C CONC (SIGN COLUMN) DOLLARS and CENTS	CY	277.000	76

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	ITEM NO	DESC CODE	S.P. NO.				
	420	2017	002	CL C CONC (BENT)(MASS PLACEMENT) DOLLARS and CENTS	CY	3,687.800	77
	420	2018	002	CL C CONC (FOOTING)(MASS PLACEMENT) DOLLARS and CENTS	CY	1,697.300	78
	420	2033	002	CL S CONC (APPR SLAB) DOLLARS and CENTS	CY	1,159.700	79
	420	2045	002	CL A CONC (MISC)(6") DOLLARS and CENTS	SY	1,458.000	80
	420	2072	002	CL H CONC (BENT)(MASS PLACEMENT) DOLLARS and CENTS	CY	549.500	81
	422	2001		REINF CONC SLAB DOLLARS and CENTS	SF	323,842.000	82
	423	2001		RETAINING WALL (MSE) DOLLARS and CENTS	SF	22,740.000	83
	423	2005		RETAINING WALL (TEMP WALL) DOLLARS and CENTS	SF	23,681.000	84
	423	2006		RETAINING WALL (CONC BLOCK) DOLLARS and CENTS	SF	4,283.000	85
	423	2010		RETAINING WALL (ROCK NAILED)(FACIA) DOLLARS and CENTS	SF	73,662.000	86
	423	2011		RETAINING WALL (DRILL SHAFT)(FACIA) DOLLARS and CENTS	SF	3,770.000	87

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	ITEM NO	DESC CODE	S.P. NO.				
	425	2068	001	PRESTR CONC GIRDER (TX54) DOLLARS and CENTS	LF	41,297.590	88
	426	2001		POST-TENSIONING (GROUTED) DOLLARS and CENTS	MKF	228.000	89
	428	2002	001	CONC SURF TREAT (CLASS II) DOLLARS and CENTS	SY	33,731.000	90
	429	2009	008	CNC STR REP (BRDG DECK)(PARTIAL DEPTH) DOLLARS and CENTS	SF	1,200.000	91
	432	2001		RIPRAP (CONC)(4 IN) DOLLARS and CENTS	CY	1,063.000	92
	432	2002		RIPRAP (CONC)(5 IN) DOLLARS and CENTS	CY	1,280.000	93
	432	2019		RIPRAP (STONE PROTECTION)(12 IN) DOLLARS and CENTS	CY	1,981.000	94
	432	2021		RIPRAP (STONE PROTECTION)(18 IN) DOLLARS and CENTS	CY	1,060.000	95
	432	2023		RIPRAP (STONE PROTECTION)(24 IN) DOLLARS and CENTS	CY	5,382.000	96
	432	2027		RIPRAP (SPECIAL) DOLLARS and CENTS	CY	377.000	97
	432	2040		RIPRAP (MOW STRIP)(5 IN) DOLLARS and CENTS	CY	735.000	98

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	ITEM NO	DESC CODE	S.P. NO.				
	432	2048		RIPRAP (CONC)(FLUME) DOLLARS and CENTS	CY	267.000	99
	432	2097		RIPRAP (STONE TY F)(DRY)(12 IN) DOLLARS and CENTS	CY	111.000	100
	434	2067	003	ELASTOMERIC BEAR (E8) DOLLARS and CENTS	EA	4.000	101
	434	2073	003	ELASTOMERIC BEAR (F8) DOLLARS and CENTS	EA	8.000	102
	434	2080	003	SLIDING ELASTOMERIC BEAR (ES 8) DOLLARS and CENTS	EA	16.000	103
	438	2001		CLEAN EXIST JOINTS DOLLARS and CENTS	LF	210.000	104
	438	2002		CLEAN AND SEAL EXIST JOINTS DOLLARS and CENTS	LF	2,089.000	105
	442	2002	005	STR STL (PLATE GIRDER) DOLLARS and CENTS	LB	2,167,900.00	106
	442	2005	005	STR STL (MISCELLANEOUS) DOLLARS and CENTS	LB	3,574.000	107
	450	2013	001	RAIL (TY SSTR) DOLLARS and CENTS	LF	1,174.000	108
	450	2063	001	RAIL TYPE (TY T401) DOLLARS and CENTS	LF	11,088.400	109

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	ITEM NO	DESC CODE	S.P. NO.				
	450	2065	001	RAILING T401(MOD) DOLLARS and CENTS	LF	5,235.000	110
	450	2079	001	RAIL (HANDRAIL)(SPL) DOLLARS and CENTS	LF	60.000	111
	450	2081	001	RAIL (TY C402)(MOD) DOLLARS and CENTS	LF	410.000	112
	450	2187	001	RAIL (T223)(MOD) DOLLARS and CENTS	LF	3,030.000	113
	454	2001		SEALED EXPANSION JOINT (4 IN)(SEJ-A) DOLLARS and CENTS	LF	728.000	114
	454	2002		SEALED EXPANSION JOINT (4 IN)(SEJ-P) DOLLARS and CENTS	LF	1,032.000	115
	454	2006		HEADER TYPE EXPANSION JOINT DOLLARS and CENTS	LF	210.000	116
	462	2001		CONC BOX CULV (3 FT X 2 FT) DOLLARS and CENTS	LF	1,494.000	117
	462	2003		CONC BOX CULV (4 FT X 2 FT) DOLLARS and CENTS	LF	2,070.000	118
	462	2010		CONC BOX CULV (6 FT X 3 FT) DOLLARS and CENTS	LF	4,026.000	119
	462	2011		CONC BOX CULV (6 FT X 4 FT) DOLLARS and CENTS	LF	3,737.000	120

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	ITEM NO	DESC CODE	S.P. NO.				
	462	2019		CONC BOX CULV (8 FT X 4 FT) DOLLARS and CENTS	LF	1,858.000	121
	462	2023		CONC BOX CULV (8 FT X 8 FT) DOLLARS and CENTS	LF	2,278.000	122
	462	2024		CONC BOX CULV (9 FT X 5 FT) DOLLARS and CENTS	LF	3,115.000	123
	462	2034		CONC BOX CULV (10 FT X 10 FT) DOLLARS and CENTS	LF	784.000	124
	464	2003	003	RC PIPE (CL III)(18 IN) DOLLARS and CENTS	LF	14,648.000	125
	464	2005	003	RC PIPE (CL III)(24 IN) DOLLARS and CENTS	LF	10,071.000	126
	464	2007	003	RC PIPE (CL III)(30 IN) DOLLARS and CENTS	LF	8,880.000	127
	464	2009	003	RC PIPE (CL III)(36 IN) DOLLARS and CENTS	LF	11,284.000	128
	464	2010	003	RC PIPE (CL III)(42 IN) DOLLARS and CENTS	LF	4,551.000	129
	464	2011	003	RC PIPE (CL III)(48 IN) DOLLARS and CENTS	LF	5,699.000	130
	464	2022	003	RC PIPE (CL IV)(24 IN) DOLLARS and CENTS	LF	392.000	131

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	ITEM NO	DESC CODE	S.P. NO.				
	464	2035	003	RC PIPE (CL V)(18 IN) DOLLARS and CENTS	LF	94.000	132
	465	2001	001	INLET (COMPL)(TY C) DOLLARS and CENTS	EA	16.000	133
	465	2003	001	INLET (COMPL)(TY H) DOLLARS and CENTS	EA	79.000	134
	465	2005	001	MANH (COMPL)(TY M) DOLLARS and CENTS	EA	84.000	135
	465	2006	001	MANH (COMPL)(JUNCT BOX)(TY M) DOLLARS and CENTS	EA	17.000	136
	465	2027	001	INLET (COMPL)(CURB)(TY II)(10’) DOLLARS and CENTS	EA	53.000	137
	465	2028	001	INLET (COMPL)(CURB)(TY II)(15’) DOLLARS and CENTS	EA	17.000	138
	465	2122	001	INLET (COMPL)(SPL) DOLLARS and CENTS	EA	4.000	139
	465	2273	001	INLET (COMPL)(CURB)(TY II)(20’) DOLLARS and CENTS	EA	33.000	140
	466	2025		WINGWALL (FW-0)(HW=9 FT) DOLLARS and CENTS	EA	1.000	141
	466	2048		WINGWALL (PW)(HW=4 FT) DOLLARS and CENTS	EA	1.000	142

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	466	2050		WINGWALL (PW)(HW=6 FT) DOLLARS and CENTS	EA	8.000	143
	466	2051		WINGWALL (PW)(HW=7 FT) DOLLARS and CENTS	EA	4.000	144
	466	2053		WINGWALL (PW)(HW=9 FT) DOLLARS and CENTS	EA	2.000	145
	466	2056		WINGWALL (PW)(HW=12 FT) DOLLARS and CENTS	EA	1.000	146
	466	2058		WINGWALL (PW)(HW=14 FT) DOLLARS and CENTS	EA	1.000	147
	466	2060		WINGWALL (PW)(HW=16 FT) DOLLARS and CENTS	EA	1.000	148
	466	2145		HEADWALL (CH-PW-S)(DIA= 42 IN) DOLLARS and CENTS	EA	1.000	149
	466	2260		WINGWALL(PW)(HW=8FT)(MOD) DOLLARS and CENTS	EA	2.000	150
	467	2151		SET (TY I)(S= 3 FT)(HW= 3 FT)(6:1)(C) DOLLARS and CENTS	EA	3.000	151
	467	2209		SET (TY II)(18 IN)(RCP)(3:1)(C) DOLLARS and CENTS	EA	2.000	152
	467	2286		SET (TY II)(18 IN)(RCP)(6:1)(P) DOLLARS and CENTS	EA	8.000	153

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	467	2288		SET (TY II)(24 IN)(RCP)(6:1)(P) DOLLARS and CENTS	EA	93.000	154
	467	2290		SET (TY II)(30 IN)(RCP)(6:1)(P) DOLLARS and CENTS	EA	4.000	155
	467	2292		SET (TY II)(36 IN)(RCP)(6:1)(P) DOLLARS and CENTS	EA	8.000	156
	471	2003		GRATE & FRAME DOLLARS and CENTS	EA	30.000	157
	476	2049		JACK OR TUN BOX CULV (6 FT X 3 FT) DOLLARS and CENTS	LF	210.000	158
	479	2002		ADJ INLETS DOLLARS and CENTS	EA	2.000	159
	481	2012		PVC PIPE (SCH 40)(6 IN) DOLLARS and CENTS	LF	1,003.000	160
	481	2013		PVC PIPE (SCH 40)(8 IN) DOLLARS and CENTS	LF	130.000	161
	496	2008		REMOV STR (BOX CULVERT) DOLLARS and CENTS	LF	2,982.000	162
	496	2010		REMOV STR (BRIDGE 100-499 FT LENGTH) DOLLARS and CENTS	EA	6.000	163
	500	2001	005	MOBILIZATION DOLLARS and CENTS	LS	1.000	164

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	502	2001	033	BARRICADES, SIGNS AND TRAFFIC HANDLING DOLLARS and CENTS	MO	48.000	165
	506	2002	011	ROCK FILTER DAMS (INSTALL) (TY 2) DOLLARS and CENTS	LF	6,328.000	166
	506	2003	011	ROCK FILTER DAMS (INSTALL) (TY 3) DOLLARS and CENTS	LF	44.000	167
	506	2009	011	ROCK FILTER DAMS (REMOVE) DOLLARS and CENTS	LF	6,372.000	168
	506	2016	011	CONSTRUCTION EXITS (INSTALL) (TY 1) DOLLARS and CENTS	SY	3,885.000	169
	506	2019	011	CONSTRUCTION EXITS (REMOVE) DOLLARS and CENTS	SY	3,885.000	170
	506	2020	011	EXCAV (EROS & SEDM CONT, IN PLACE) DOLLARS and CENTS	CY	1,115.000	171
	506	2034	011	TEMPORARY SEDIMENT CONTROL FENCE DOLLARS and CENTS	LF	31,794.000	172
	508	2002		CONSTRUCTING DETOURS DOLLARS and CENTS	SY	53,579.000	173
	512	2008	002	PORT CTB (FUR & INST)(LOW PROF)(TY 1) DOLLARS and CENTS	LF	3,860.000	174

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	512	2009	002	PORT CTB (FUR & INST)(LOW PROF)(TY 2) DOLLARS and CENTS	LF	240.000	175
	512	2017	002	PORT CTB (DES SOURCE)(LOW PROF)(TY 1) DOLLARS and CENTS	LF	38,500.000	176
	512	2018	002	PORT CTB (DES SOURCE)(LOW PROF)(TY 2) DOLLARS and CENTS	LF	2,500.000	177
	512	2026	002	PORT CTB (MOVE)(LOW PROF)(TY 1) DOLLARS and CENTS	LF	17,610.000	178
	512	2027	002	PORT CTB (MOVE)(LOW PROF)(TY 2) DOLLARS and CENTS	LF	580.000	179
	512	2035	002	PORT CTB (STKPL)(LOW PROF)(TY 1) DOLLARS and CENTS	LF	42,680.000	180
	512	2036	002	PORT CTB (STKPL)(LOW PROF)(TY 2) DOLLARS and CENTS	LF	2,780.000	181
	512	2093	002	PORT CBR (DES SOURCE) DOLLARS and CENTS	LF	62,190.000	182
	512	2094	002	PORT CBR (MOVE) DOLLARS and CENTS	LF	126,090.000	183
	512	2095	002	PORT CBR (STOCKPILE) DOLLARS and CENTS	LF	97,680.000	184
	514	2004	002	PERM CONC TRF BARR (SGL SLP)(TY 1)(42") DOLLARS and CENTS	LF	480.000	185

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	514	2005	002	PERM CONC TRF BARR (SGL SLP)(TY 2)(42") DOLLARS and CENTS	LF	33,839.000	186
	514	2006	002	PERM CONC TRF BARR (SGL SLP)(TY 3)(42") DOLLARS and CENTS	LF	1,198.000	187
	514	2017	002	PERM CONC TRF BARR (F-SHAPE)(TY 3) DOLLARS and CENTS	LF	392.000	188
	528	2004		LANDSCAPE PAVERS DOLLARS and CENTS	SY	4,008.000	189
	528	2006		COLORED TEXTURED CONC (5") DOLLARS and CENTS	SY	41.000	190
	529	2004		CONC CURB & GUTTER (TY II) DOLLARS and CENTS	LF	51,129.000	191
	529	2006		CONC CURB (MONO) (TY II) DOLLARS and CENTS	LF	46,189.000	192
	529	2009		CONCRETE CURB (SPECIAL) DOLLARS and CENTS	LF	113.000	193
	529	2029		CONC CURB & GUTTER (TY II A) DOLLARS and CENTS	LF	4,322.000	194
	529	2030		CONC CURB (MONO) (TY II A) DOLLARS and CENTS	LF	9,851.000	195
	530	2010		DRIVEWAYS (CONC) DOLLARS and CENTS	SY	7,855.000	196

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	530	2011		DRIVEWAYS (ACP) DOLLARS and CENTS	SY	1,653.000	197
	530	2027		DRIVEWAYS (ACP AND CONCRETE) DOLLARS and CENTS	SY	7,512.000	198
	531	2005		CURB RAMPS (TY 1) DOLLARS and CENTS	EA	28.000	199
	531	2006		CURB RAMPS (TY 2) DOLLARS and CENTS	EA	9.000	200
	531	2010		CURB RAMPS (TY 7) DOLLARS and CENTS	EA	1.000	201
	531	2015		CONC SIDEWLKS (4") DOLLARS and CENTS	SY	1,248.000	202
	531	2062		CURB RAMPS (TY 21)(MOD) DOLLARS and CENTS	EA	1.000	203
	533	2001		SHOULDER TEXTURING (MILLED) DOLLARS and CENTS	STA	299.000	204
	540	2002	015	MTL W-BEAM GD FEN (STEEL POST) DOLLARS and CENTS	LF	9,150.000	205
	540	2005	015	TERMINAL ANCHOR SECTION DOLLARS and CENTS	EA	13.000	206
	540	2011	015	MTL BEAM GD FEN TRANS (THRIE-BEAM) DOLLARS and CENTS	EA	25.000	207

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	542	2001		REMOVING METAL BEAM GUARD FENCE DOLLARS and CENTS	LF	9,558.000	208
	542	2002		REMOVING TERMINAL ANCHOR SECTION DOLLARS and CENTS	EA	38.000	209
	542	2003		RM MTL BM GD FEN TRANS (THRIE-BEAM) DOLLARS and CENTS	EA	8.000	210
	544	2001		GUARDRAIL END TREATMENT (INSTALL) DOLLARS and CENTS	EA	30.000	211
	544	2003		GUARDRAIL END TREATMENT (REMOVE) DOLLARS and CENTS	EA	50.000	212
	545	2001		CRASH CUSH ATTEN (INSTL) DOLLARS and CENTS	EA	43.000	213
	545	2002		CRASH CUSH ATTEN (MOVE & RESET) DOLLARS and CENTS	EA	21.000	214
	545	2003		CRASH CUSH ATTEN (REMOVE) DOLLARS and CENTS	EA	43.000	215
	552	2003		WIRE FENCE (TY C) DOLLARS and CENTS	LF	24,059.000	216
	556	2008		PIPE UNDERDRAINS (TY 8) (6") DOLLARS and CENTS	LF	5,000.000	217
	560	2004	001	MAILBOX INSTALL-S (WC-POST) TY 3 FND DOLLARS and CENTS	EA	70.000	218

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	560	2005	001	MAILBOX INSTALL-D (WC-POST) TY 3 FND DOLLARS and CENTS	EA	8.000	219
	560	2020	001	MAILBOX INSTALL-M(WC-POST)TY 3FND-AB DOLLARS and CENTS	EA	3.000	220
	610	2025	010	INS RD IL AM (TY SA) 40T-8 (.25 KW)S DOLLARS and CENTS	EA	80.000	221
	610	2059	010	INS RD IL AM (U/P) (TY IF) (.15KW) DOLLARS and CENTS	EA	2.000	222
	610	2060	010	INS RD IL AM (U/P) (TY 1) (.15KW)S DOLLARS and CENTS	EA	22.000	223
	610	2072	010	REMOVE RDWY ILL ASSEM DOLLARS and CENTS	EA	4.000	224
	613	2006	002	HI MST IL POLE (150 FT) (100 MPH) DOLLARS and CENTS	EA	12.000	225
	614	2001		HI MST IL ASM(12-400 WATT)(ASYM)(TY A) DOLLARS and CENTS	EA	12.000	226
	618	2018		CONDT (PVC) (SCHD 40) (2") DOLLARS and CENTS	LF	60,194.000	227
	618	2022		CONDT (PVC) (SCHD 40) (3") DOLLARS and CENTS	LF	620.000	228

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	618	2035		CONDT (PVC) (SCHD 80) (2") (BORE) DOLLARS and CENTS	LF	8,832.000	229
	618	2039		CONDT (PVC) (SCHD 80) (3") (BORE) DOLLARS and CENTS	LF	1,562.000	230
	618	2046		CONDT (RM) (1") DOLLARS and CENTS	LF	174.000	231
	618	2074		CDT(PVC)(SCHD 80)(4")(4-1.25"HDPE INDT) DOLLARS and CENTS	LF	2.000	232
	618	2090		CONDT (HDPE) (1/2") DOLLARS and CENTS	LF	219,555.000	233
	618	2093		CONDT (HDPE)(1/2")(BORE) DOLLARS and CENTS	LF	59,395.000	234
	618	2094		CONDT (HDPE)(1/2")(STRUCTURE MOUNTED) DOLLARS and CENTS	LF	3,465.000	235
	620	2003	001	ELEC CONDR (NO. 2) BARE DOLLARS and CENTS	LF	426.000	236
	620	2004	001	ELEC CONDR (NO. 2) INSULATED DOLLARS and CENTS	LF	842.000	237
	620	2009	001	ELEC CONDR (NO. 6) BARE DOLLARS and CENTS	LF	7,697.000	238

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	620	2010	001	ELEC CONDR (NO. 6) INSULATED DOLLARS and CENTS	LF	15,304.000	239
	620	2011	001	ELEC CONDR (NO. 8) BARE DOLLARS and CENTS	LF	61,073.000	240
	620	2012	001	ELEC CONDR (NO. 8) INSULATED DOLLARS and CENTS	LF	139,951.000	241
	624	2008		GROUND BOX TY A (122311) W/APRON DOLLARS and CENTS	EA	212.000	242
	624	2014		GROUND BOX TY D (162922) W/APRON DOLLARS and CENTS	EA	26.000	243
	624	2018		GROUND BOX TY J (484836) W/APRON DOLLARS and CENTS	EA	34.000	244
	628	2035	001	ELC SRV TY A 240/480 100 (NS)SS(E)SP(U) DOLLARS and CENTS	EA	8.000	245
	628	2074	001	ELC SRV TY D 120/240 060 (NS)SS(E)PS(U) DOLLARS and CENTS	EA	2.000	246
	628	2188	001	ELC SRV TY D 120/240 070 (NS)SS(E)PS(U) DOLLARS and CENTS	EA	1.000	247
	628	2205	001	ELC SRV TY D 120/240 100 (NS)SS(N)PS(U) DOLLARS and CENTS	EA	3.000	248
	628	2341	001	ELC SRV TY A 240/480 100 (NS)AL(E)SF(U) DOLLARS and CENTS	EA	1.000	249

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	636	2001	014	ALUMINUM SIGNS (TY A) DOLLARS and CENTS	SF	198.000	250
	636	2002	014	ALUMINUM SIGNS (TY G) DOLLARS and CENTS	SF	180.000	251
	636	2003	014	ALUMINUM SIGNS (TY O) DOLLARS and CENTS	SF	4,366.000	252
	644	2001		INS SM RD SN SUP&AM TY 10BWG(1) SA(P) DOLLARS and CENTS	EA	9.000	253
	644	2004		INS SM RD SN SUP&AM TY 10BWG(1) SA(T) DOLLARS and CENTS	EA	78.000	254
	644	2021		INS SM RD SN SUP&AM TY G DOLLARS and CENTS	EA	9.000	255
	644	2025		INS SM RD SN SUP&AM TY S80(1) SA(T) DOLLARS and CENTS	EA	22.000	256
	644	2027		INS SM RD SN SUP&AM TY S80(1) SA(U) DOLLARS and CENTS	EA	1.000	257
	644	2029		INS SM RD SN SUP&AM TY S80(1)SA(U-2EXT) DOLLARS and CENTS	EA	1.000	258
	644	2042		INS SM RD SN SUP&AM TY S80(2) SA(P) DOLLARS and CENTS	EA	11.000	259
	644	2060		REMOVE SM RD SN SUP & AM DOLLARS and CENTS	EA	350.000	260

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	644	2064		INS SM RD SN SUP&AM TY S80(1)SA(U-EXAL) DOLLARS and CENTS	EA	21.000	261
	644	2081		INS SM RD SN SUP&AM TY TWT(1) WS(P) DOLLARS and CENTS	EA	124.000	262
	644	2082		INS SM RD SN SUP&AM TY TWT(1) WS(T) DOLLARS and CENTS	EA	55.000	263
	647	2001		INSTALL LRSS (STRUCT STEEL) DOLLARS and CENTS	LB	733.000	264
	647	2002		RELOCATE LRSA DOLLARS and CENTS	EA	4.000	265
	647	2003		REMOVE LRSA DOLLARS and CENTS	EA	48.000	266
	650	2013		INS OH SN SUP(20 FT BAL TEE) DOLLARS and CENTS	EA	2.000	267
	650	2015		INS OH SN SUP(20 FT BAL TEE)(SPAN ONLY) DOLLARS and CENTS	EA	1.000	268
	650	2021		INS OH SN SUP(25 FT BAL TEE)(SPAN ONLY) DOLLARS and CENTS	EA	1.000	269
	650	2025		INS OH SN SUP(30 FT BAL TEE) DOLLARS and CENTS	EA	1.000	270

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	650	2027		INS OH SN SUP(30 FT BAL TEE)(SPAN ONLY) DOLLARS and CENTS	EA	1.000	271
	650	2028		INS OH SN SUP(30 FT CANT) DOLLARS and CENTS	EA	9.000	272
	650	2030		INS OH SN SUP(30 FT CANT)(SPAN ONLY) DOLLARS and CENTS	EA	7.000	273
	650	2040		INS OH SN SUP(40 FT CANT) DOLLARS and CENTS	EA	2.000	274
	650	2042		INS OH SN SUP(40 FT CANT)(SPAN ONLY) DOLLARS and CENTS	EA	2.000	275
	650	2116		INS OH SN SUP(110 FT COMB) DOLLARS and CENTS	EA	1.000	276
	650	2173		REMOVE OVERHD SIGN SUP DOLLARS and CENTS	EA	1.000	277
	658	2240		INSTL DEL ASSM (D-SW)SZ 1(FLX)GF2 DOLLARS and CENTS	EA	51.000	278
	658	2246		INSTL DEL ASSM (D-SW)SZ 1(RCR)GND DOLLARS and CENTS	EA	121.000	279
	658	2269		INSTL DEL ASSM (D-SY)SZ 1(FLX)GF2 DOLLARS and CENTS	EA	85.000	280
	658	2278		INSTL DEL ASSM (D-SY)SZ (TYC)CTB(BI) DOLLARS and CENTS	EA	357.000	281

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	658	2297		INSTL DEL ASSM (D-DW)SZ 1(RCR)GND DOLLARS and CENTS	EA	98.000	282
	658	2364		INSTL DEL ASSM (D-SW)SZ 1(TYC)CTB(BR) DOLLARS and CENTS	EA	61.000	283
	658	2365		INSTL DEL ASSM (D-SY)SZ 1(TYC)CTB(BR) DOLLARS and CENTS	EA	89.000	284
	662	2064		WK ZN PAV MRK REMOV (W) 4" (BRK) DOLLARS and CENTS	LF	12,056.000	285
	662	2067		WK ZN PAV MRK REMOV (W) 4" (SLD) DOLLARS and CENTS	LF	154,460.000	286
	662	2074		WK ZN PAV MRK REMOV (W) 8" (LNDP) DOLLARS and CENTS	LF	1,716.000	287
	662	2075		WK ZN PAV MRK REMOV (W) 8" (SLD) DOLLARS and CENTS	LF	7,822.000	288
	662	2099		WK ZN PAV MRK REMOV (Y) 4" (SLD) DOLLARS and CENTS	LF	149,253.000	289
	666	2047		REFL PAV MRK TY I (W) 24"(SLD)(090MIL) DOLLARS and CENTS	LF	325.000	290
	666	2048		REFL PAV MRK TY I (W) 24"(SLD)(100MIL) DOLLARS and CENTS	LF	5,372.000	291
	666	2132		REFL PAV MRK TY I (Y) 24"(SLD)(100MIL) DOLLARS and CENTS	LF	2,615.000	292

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	668	2106		PREFAB PAV MRK TY C (W) (ARROW) DOLLARS and CENTS	EA	65.000	293
	668	2115		PREFAB PAV MRK TY C (W) (UTURN ARROW) DOLLARS and CENTS	EA	4.000	294
	668	2116		PREFAB PAV MRK TY C (W) (WORD) DOLLARS and CENTS	EA	21.000	295
	668	2118		PREFAB PAV MRK TY C (W) (36")(YLD TRI) DOLLARS and CENTS	EA	60.000	296
	668	2145		PREFAB PAV MRK TY C (W) (NUMBER) DOLLARS and CENTS	EA	14.000	297
	672	2014	034	REFL PAV MRKR TY I-R DOLLARS and CENTS	EA	308.000	298
	672	2015	034	REFL PAV MRKR TY II-A-A DOLLARS and CENTS	EA	615.000	299
	672	2017	034	REFL PAV MRKR TY II-C-R DOLLARS and CENTS	EA	9,268.000	300
	677	2001		ELIM EXT PAV MRK & MRKS (4") DOLLARS and CENTS	LF	48,507.000	301
	678	2002		PAV SURF PREP FOR MRK (6") DOLLARS and CENTS	LF	179,440.000	302
	678	2006		PAV SURF PREP FOR MRK (24") DOLLARS and CENTS	LF	7,987.000	303

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	678	2007		PAV SURF PREP FOR MRK (ARROW) DOLLARS and CENTS	EA	63.000	304
	678	2018		PAV SURF PREP FOR MRK (WORD) DOLLARS and CENTS	EA	35.000	305
	678	2020		PAV SURF PREP FOR MRK (36") (YLD TRI) DOLLARS and CENTS	EA	60.000	306
	680	2002		INSTALL HWY TRF SIG (ISOLATED) DOLLARS and CENTS	EA	3.000	307
	682	2022	001	VEH SIG SEC (12 IN) LED (GRN ARW) DOLLARS and CENTS	EA	7.000	308
	682	2023	001	VEH SIG SEC (12 IN) LED (GRN) DOLLARS and CENTS	EA	36.000	309
	682	2024	001	VEH SIG SEC (12 IN) LED (YEL ARW) DOLLARS and CENTS	EA	7.000	310
	682	2025	001	VEH SIG SEC (12 IN) LED (YEL) DOLLARS and CENTS	EA	36.000	311
	682	2026	001	VEH SIG SEC (12 IN) LED (RED ARW) DOLLARS and CENTS	EA	3.000	312
	682	2027	001	VEH SIG SEC (12 IN) LED (RED) DOLLARS and CENTS	EA	36.000	313
	682	2045	001	BACK PLATE (12 IN) (3 SEC) ALUM DOLLARS and CENTS	EA	35.000	314

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	682	2047	001	BACK PLATE (12 IN) (5 SEC) ALUM DOLLARS and CENTS	EA	4.000	315
	684	2010		TRF SIG CBL (TY A) (12 AWG) (5 CONDR) DOLLARS and CENTS	LF	80.000	316
	684	2017		TRF SIG CBL (TY A) (12 AWG) (12 CONDR) DOLLARS and CENTS	LF	1,470.000	317
	684	2021		TRF SIG CBL (TY A) (12 AWG) (16 CONDR) DOLLARS and CENTS	LF	5,276.000	318
	684	2079		TRF SIG CBL (TY C) (12 AWG) (2 CONDR) DOLLARS and CENTS	LF	3,520.000	319
	686	2035		INS TRF SIG PL AM(S) 1 ARM (36’) DOLLARS and CENTS	EA	4.000	320
	686	2037		INS TRF SIG PL AM(S) 1 ARM (36’) LUM DOLLARS and CENTS	EA	8.000	321
	686	2039		INS TRF SIG PL AM(S) 1 ARM (40’) DOLLARS and CENTS	EA	1.000	322
	686	2041		INS TRF SIG PL AM(S) 1 ARM (40’) LUM DOLLARS and CENTS	EA	4.000	323
	687	2001	004	PED POLE ASSEMBLY DOLLARS and CENTS	EA	2.000	324
	688	2003		VEH LP DETECT (SAWCUT) (14 AWG) (BLK) DOLLARS and CENTS	LF	662.000	325

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	730	2002	003	FULL-WIDTH MOWING DOLLARS and CENTS	AC	2,808.000	326
	734	2002		LITTER REMOVAL DOLLARS and CENTS	CYC	48.000	327
	735	2001		DEBRIS REMOVAL (CNTR MEDIANS/MAIN-LANES) DOLLARS and CENTS	CYC	960.000	328
	738	2001		CLEANING/SWEEPING (CENTER MEDIAN) DOLLARS and CENTS	CYC	48.000	329
	738	2003		CLEANING/SWEEPING (OUTSIDE MAIN LANE) DOLLARS and CENTS	CYC	48.000	330
	738	2005		CLEANING/SWEEPING (FRONTAGE ROAD) DOLLARS and CENTS	CYC	12.000	331
	738	2013		CLEANING/SWEEPING (DIRECT CONNEC-TOR) DOLLARS and CENTS	CYC	12.000	332
	740	2005	001	ANTI-GRAFFITI COATING (PERMANENT) DOLLARS and CENTS	SF	68,214.000	333
	4118	2001		ROCK NAIL ANCHORS DOLLARS and CENTS	LF	41,290.000	334

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	5583	2001		CURB INLET SDMT CONTROL DEVICE(INSTALL) DOLLARS and CENTS	LF	950.000	335
	5811	2001		TRENCH SAFETY PLAN DOLLARS and CENTS	LS	1.000	336
	5811	2002		IMPLEMENT TRENCH SAFETY PLAN(PIPE) DOLLARS and CENTS	LF	21,013.000	337
	5811	2003		IMPLEMENT TRNCH SFTY PLAN(STRUC-TURES) DOLLARS and CENTS	SF	27,000.000	338
	5811	2004		PRE-CONSTRUCTION VIDEO OF SITE DOLLARS and CENTS	LS	1.000	339
	5811	2005		CONCRETE BACKFILL DOLLARS and CENTS	LF	111.000	340
	5811	2006		ASPHALT PAVEMENT REPLACEMENT DOLLARS and CENTS	LF	6,019.000	341
	5811	2010		16-INCH DIA STEEL ENCASEMENT BY BORE DOLLARS and CENTS	LF	46.000	342
	5811	2011		24-INCH DIA STEEL ENCASEMENT BY BORE DOLLARS and CENTS	LF	946.000	343
	5811	2012		30-INCH DIA STEEL ENCASEMENT BY BORE DOLLARS and CENTS	LF	281.000	344

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	5811	2013		16-INCH DIA STEEL ENCSMNT BY OPEN CUT DOLLARS and CENTS	LF	2,314.000	345
	5811	2014		8-INCH DIAMETER WATER LINE DOLLARS and CENTS	LF	5,201.000	346
	5811	2015		10-INCH DIAMETER WATER LINE DOLLARS and CENTS	LF	1,110.000	347
	5811	2016		12-INCH DIAMETER WATER LINE DOLLARS and CENTS	LF	1,308.000	348
	5811	2017		14-INCH DIAMETER WATER LINE DOLLARS and CENTS	LF	459.000	349
	5811	2018		8-INCH GATE VALVE DOLLARS and CENTS	EA	8.000	350
	5811	2019		10-INCH GATE VALVE DOLLARS and CENTS	EA	3.000	351
	5811	2020		12-INCH GATE VALVE DOLLARS and CENTS	EA	5.000	352
	5811	2023		STANDARD FIRE HYDRANT DOLLARS and CENTS	EA	15.000	353
	5811	2024		CONNECT TO EXISTING 6" WATER LINE DOLLARS and CENTS	EA	3.000	354
	5811	2025		CONNECT TO EXISTING 8" WATER LINE DOLLARS and CENTS	EA	6.000	355

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	5811	2026		CONNECT TO EXISTING 10" WATER LINE DOLLARS and CENTS	EA	1.000	356
	5811	2027		CONNECT TO EXISTING 12" WATER LINE DOLLARS and CENTS	EA	1.000	357
	5811	2028		CONNECT TO EXISTING 14" WATER LINE DOLLARS and CENTS	EA	2.000	358
	5811	2032		ABANDON 10" WATERLINE DOLLARS and CENTS	LF	250.000	359
	5811	2033		ABANDON 12" WATERLINE DOLLARS and CENTS	LF	270.000	360
	5811	2034		ABANDON 14" WATERLINE DOLLARS and CENTS	LF	173.000	361
	5811	2035		SALVAGE EXISTING FH DOLLARS and CENTS	EA	9.000	362
	5811	2036		DEMOLISH EXISTING VALVE ASSEMBLIES DOLLARS and CENTS	EA	26.000	363
	5811	2037		8-INCH DIA SDR 26 PVC WASTEWATER PIPE DOLLARS and CENTS	LF	4,631.000	364
	5811	2038		12-INCH DIA SDR 26 PVC WASTEWATER PIPE DOLLARS and CENTS	LF	580.000	365
	5811	2039		15-INCH DIA SDR 26 PVC WASTEWATER PIPE DOLLARS and CENTS	LF	314.000	366

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	5811	2040		18-INCH DIA SDR 26 PVC WASTEWATER PIPE DOLLARS and CENTS	LF	606.000	367
	5811	2041		4-FOOT DIA WASTEWATER MANHOLE DOLLARS and CENTS	EA	26.000	368
	5811	2042		CNNCT EXSTNG WW LINE TO PRPSD MAN-HOLE DOLLARS and CENTS	EA	11.000	369
	5811	2043		SOUTH BELTON LIFT STATION DOLLARS and CENTS	LS	1.000	370
	5811	2044		DEMOLISH EXISTING LIFT STATION DOLLARS and CENTS	EA	1.000	371
	5811	2045		DEMOLISH EXISTING WASTEWATER MAN-HOLE DOLLARS and CENTS	EA	28.000	372
	5811	2047		ABANDON 8" WASTEWATER LINE DOLLARS and CENTS	LF	590.000	373
	5811	2049		ABANDON 15" WASTEWATER LINE DOLLARS and CENTS	LF	280.000	374
	5811	2050		CONNECT TO EXISTING 6" FORCE MAIN DOLLARS and CENTS	EA	1.000	375
	5811	2051		TEMPORARY WW CONNECTION (WWL "C") DOLLARS and CENTS	LS	1.000	376

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	5811	2052		BYPASS PUMPING(WWL "D" AND WWL "E") DOLLARS and CENTS	EA	1.000	377
	5811	2054		20-INCH DIA STEEL ENCSMNT BY OPEN CUT DOLLARS and CENTS	LF	262.000	378
	5811	2055		WATER LINE FITTINGS DOLLARS and CENTS	LS	1.000	379
	5811	2056		6-INCH DIA SDR 26 PVC WASTEWATER PIPE DOLLARS and CENTS	LF	1,597.000	380
	5811	2057		5-FOOT DIA WASTEWATER MANHOLE W/ DROP DOLLARS and CENTS	EA	2.000	381
	5811	2058		5-FOOT DIA WASTEWATER MANHOLE DOLLARS and CENTS	EA	1.000	382
	5811	2059		WASTEWATER SERVICE CONNECTIONS DOLLARS and CENTS	EA	8.000	383
	5811	2060		6" FORCE MAIN DOLLARS and CENTS	LF	456.000	384
	5811	2061		ABANDON 6" FORCE MAIN DOLLARS and CENTS	LF	40.000	385
	5811	2062		18-INCH DIA STEEL ENCASEMENT BY BORE DOLLARS and CENTS	LF	562.000	386

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	5811	2063		30-INCH DIA STEEL ENCASE BY OPEN CUT DOLLARS and CENTS	LF	217.000	387
	5811	2064		6-INCH FULL BODY TAP SLEEVE AND VALVE DOLLARS and CENTS	EA	1.000	388
	5811	2065		8-INCH FULL BODY TAP SLEEVE AND VALVE DOLLARS and CENTS	EA	1.000	389
	5811	2066		12-INCH FULL BODY TAP SLEEVE AND VALVE DOLLARS and CENTS	EA	1.000	390
	5811	2067		ADJUST MH RIM TO FINISHED GRADE ELEV DOLLARS and CENTS	EA	11.000	391
	5811	2068		4-FOOT DIA WASTEWATER MANHOLE W/ DROP DOLLARS and CENTS	EA	5.000	392
	5811	2070		2-INCH ASP OVERLAY ON N END OF PEARL ST DOLLARS and CENTS	SY	3,764.000	393
	5811	2071		FORCE MAIN FITTINGS DOLLARS and CENTS	LS	1.000	394
	5811	2072		REMOVE AND DISPOSE OF 6-INCH WW LINE DOLLARS and CENTS	LF	408.000	395

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	5811	2073		TRAF CONTROL IMPLEMENTATION (PEARL ST) DOLLARS and CENTS	LS	1.000	396
	5811	2074		REMOVE AND DISPOSE OF 2-INCH WATER-LINE DOLLARS and CENTS	LF	946.000	397
	5811	2075		REMOVE AND DISPOSE OF 6-INCH WATER-LINE DOLLARS and CENTS	LF	4,140.000	398
	5811	2076		REMOVE AND DISPOSE OF 8-INCH WATER-LINE DOLLARS and CENTS	LF	1,851.000	399
	5811	2077		REMOVE AND DISPOSE OF 10-INCH WATER-LINE DOLLARS and CENTS	LF	1,857.000	400
	5811	2078		REMOVE AND DISPOSE OF 12-INCH WATER-LINE DOLLARS and CENTS	LF	554.000	401
	5811	2079		REMOVE AND DISPOSE OF 14-INCH WATER-LINE DOLLARS and CENTS	LF	120.000	402
	5811	2080		REMOVE AND DISPOSE OF 8-INCH WW LINE DOLLARS and CENTS	LF	5,669.000	403

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	5811	2081		REMOVE AND DISPOSE OF 12-INCH WW LINE DOLLARS and CENTS	LF	549.000	404
	5811	2082		REMOVE AND DISPOSE OF 15-INCH WW LINE DOLLARS and CENTS	LF	586.000	405
	5811	2083		REMOVE AND DISPOSE OF 6-INCH FORCE MAIN DOLLARS and CENTS	LF	210.000	406
	5811	2084		6-IN DIA WATERLINE DOLLARS and CENTS	LF	10.000	407
	5811	2085		6-IN GATE VALVE DOLLARS and CENTS	EA	1.000	408
	5811	2086		CUT/CAP EXIST 8-IN WATERLINE DOLLARS and CENTS	EA	1.000	409
	5811	2087		WATER SERVICE CONNECTION DOLLARS and CENTS	EA	16.000	410
	5812	2001		INNERDUCT (TELE) DOLLARS and CENTS	LF	67,630.000	411
	5812	2002		CABLE/FIBER BURIED (TELE) DOLLARS and CENTS	LF	28,687.000	412
	5812	2003		CABLE/FIBER UG (TELE) DOLLARS and CENTS	LF	26,470.000	413

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	5812	2004		CABLE/FIBER AERIAL (TELE) DOLLARS and CENTS	LF	6,935.000	414
	5812	2005		JACK AND BORE (TELE) DOLLARS and CENTS	LF	1,950.000	415
	5812	2006		HANDHOLE (TELE) DOLLARS and CENTS	EA	17.000	416
	5812	2007		REMOTE TERMINAL (TELE) DOLLARS and CENTS	EA	2.000	417
	5812	2008		REMOVAL (TELE) DOLLARS and CENTS	EA	36.000	418
	5812	2009		REMOVAL (TELE) DOLLARS and CENTS	LF	8,030.000	419
	5820	2001		BAT EXCLUSION SYSTEM DOLLARS and CENTS	SF	2,330.000	420
	5821	2001		BAT HOUSE (LARGE) DOLLARS and CENTS	EA	6.000	421
	5830	2001		VEHICLE REMOVAL (LARGE) DOLLARS and CENTS	EA	8.000	422
	5830	2002		VEHICLE REMOVAL (SMALL) DOLLARS and CENTS	EA	30.000	423
	6006	2002		COAXIAL CABLE DOLLARS and CENTS	LF	226.000	424

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	6006	2005		ANTENNA (UNI-DIRECTIONAL) DOLLARS and CENTS	EA	3.000	425
	6014	2015	027	FIBER OPTIC CBL (SNGLE-MODE)(72 FIBER) DOLLARS and CENTS	LF	41,365.000	426
	6014	2024	027	FIBER OPTIC CABLE ROAD MARKER DOLLARS and CENTS	EA	34.000	427
	6266	2001	017	VIVDS PROCESSOR SYSTEM DOLLARS and CENTS	EA	3.000	428
	6266	2002	017	VIVDS CAMERA ASSEMBLY DOLLARS and CENTS	EA	12.000	429
	6266	2003	017	VIVDS SET-UP SYSTEM DOLLARS and CENTS	EA	3.000	430
	6266	2005	017	VIVDS COMMUNICATION CABLE (COAXIAL) DOLLARS and CENTS	LF	4,258.000	431
	6473	2001	001	MULTIPOLYMER PAV MRK (W)(4")(SLD) DOLLARS and CENTS	LF	90,080.000	432
	6473	2002	001	MULTIPOLYMER PAV MRK (W)(4")(BRK) DOLLARS and CENTS	LF	17,162.000	433
	6473	2005	001	MULTIPOLYMER PAV MRK (W)(6")(BRK) DOLLARS and CENTS	LF	41,323.000	434
	6473	2007	001	MULTIPOLYMER PAV MRK (W)(8")(SLD) DOLLARS and CENTS	LF	38,240.000	435

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	6473	2009	001	MULTIPOLYMER PAV MRK (W)(12")(SLD) DOLLARS and CENTS	LF	4,808.000	436
	6473	2010	001	MULTIPOLYMER PAV MRK (W)(12")(LNDP) DOLLARS and CENTS	LF	3,196.000	437
	6473	2011	001	MULTIPOLYMER PAV MRK (Y)(4")(SLD) DOLLARS and CENTS	LF	109,480.000	438
	6473	2018	001	MULTIPOLYMER PAV MRK (Y)(12")(SLD) DOLLARS and CENTS	LF	1,390.000	439
	6473	2020	001	MULTIPOLYMER PAV MRK (BLK)(6")(BRK) DOLLARS and CENTS	LF	41,323.000	440
	6473	2023	001	MULTIPOLYMER PAV MRK (W)(8")(LNDP) DOLLARS and CENTS	LF	552.000	441
	6473	2024	001	MULTIPOLYMER PAV MRK (W)(8")(DOT) DOLLARS and CENTS	LF	125.000	442
	6834	2001		PORTABLE CHANGEABLE MESSAGE SIGN DOLLARS and CENTS	DAY	100.000	443
	6834	2002		PORTABLE CHANGEABLE MESSAGE SIGN DOLLARS and CENTS	EA	8.000	444
	8020	2005		REF PROF PAV MRK TY I(W)6"(SLD)(100MIL) DOLLARS and CENTS	LF	93,360.000	445
	8020	2009		REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL) DOLLARS and CENTS	LF	86,080.000	446

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	8459	2001		REMOVE HIGH MAST ILLUMINATION DOLLARS and CENTS	EA	2.000	447
	8502	2001		INSTALLATION OF DMS SYSTEM DOLLARS and CENTS	EA	6.000	448

GENERAL NOTES AND SPECIFICATION DATA

SPECIFICATION DATA

(PERCENT RETAINED-SIEVE)

DESCRIPTION	2 1/2″	1 3/4″	#4	#40	PI MAX	PI MIN
FLEXIBLE BASE (TYPE A, GRADE 4)	0	0-5	45-75	70-85	12	4

1. This material, for the mainlane construction (flexible alt.), shall be produced from a source, which when tested in accordance with Test Method Tex-117-E, Part 1, shall meet the requirements of *Class 2.3* material.

   This material, for the frontage road construction, shall be produced from a source which when tested in accordance with Test Method Tex-117-E, Part 1, shall meet the requirements of *Class 1.0* material.

2. This material shall be produced from a source, which when tested in accordance with Test Method Tex-116-E, the maximum Wet Ball Mill value shall not exceed *45*, and the maximum increase of material passing the No. 40 sieve shall not exceed 20 percent.

3. Job control samples for gradation and P.I. testing will be taken from the windrow after blade mixing.

BASIS OF ESTIMATE

BASE BID

ITEM	DESCRIPTION (BASE BID)	RATE	BASIS	QUANTITIES
*166	FERTILIZER(20-10-10)			
	(PERMANENT SEEDING)	500 LB/AC	231.76 AC	57.94 TON
	(TEMPORARY SEEDING)	500 LB/AC	231.76 AC	57.94 TON
168	VEGETATIVE WATERING (6 APPLICATIONS)	13,500 GAL/AC/APP	227.15 AC	18,399 MG
310	PRIME COAT			
	(MC-30 OR AE-P)	0.20 GAL/SY	292,110 SY	58,422 GAL

ITEM	DESCRIPTION (BASE BID)	RATE	BASIS	QUANTITIES
316	SURFACE TREATMENTS			
	ASPHALT (CRS-2)	0.45 GAL/SY	323,836 SY	145,726 GAL
	ASPHALT (AC-15P, AC-20XP, AC10-2TR, AC12-5TR)	0.45 GAL/SY	63,804 SY	28,712 GAL
	AGGREGATE (TYPE D GRADE 4) OR (TYPE L GRADE 4)(SAC-B)	1/125 CY/SY	387,125 SY	3,097 CY
341	DENSE-GRADED HMA (QC/QA)			
	TY B PG64-22	110 LB/SY	3,455 SY	190 TON
	TY B PG64-22	440 LB/SY	1,900 SY	418 TON
	TY B PG64-22	550 LB/SY	189,142 SY	52,050 TON
	TY B PG70-22	440 LB/SY	23,468 SY	5,163 TON
	TY B PG70-22	550 LB/SY	811 SY	223 TON
	TY B PG70-22	880 LB/SY	51,125 SY	22,495 TON
	TY C PG70-22	220 LB/SY	189,091 SY	20,800 TON
	TY C PG76-22 SAC B	440 LB/SY	23,146 SY	5,092 TON
	TY D PG64-22	110 LB/SY	631,309 SY	34,722 TON
	TY D PG64-22	330 LB/SY	52,109 SY	8,598 TON
342	PERMEABLE FRICTION COURSE			
	(ASPHALT) PG76-22	6.5%	7,933 TON	516 TON
	(AGGREGATE)(PG76 MIX) SAC-A	93.5%	7,933 TON	7,417 TON
346	STONE-MATRIX ASPHALT			
	SMA-C SAC-B PG76-22	330 LB/SY	48,558 SY	8,012 TON
	SMA-D SAC-B PG76-22	220 LB/SY	58,800 SY	6,468 TON
502	BARRICADES, SIGNS, AND TRAFFIC HANDLING	1 CYC/3 MO	48 MONTH	16 CYC
730	FULL WIDTH MOWING	234 AC/CYCLE	12 CYCLES	2,808 AC
734	LITTER REMOVAL	1 CYC/MO	48 MONTH	48 CYC
735	DEBRIS REMOVAL			
	CENTER MEDIANS/MAINLANES	20 CYC/1 MONTH	48 MONTH	960 CYC

ITEM	DESCRIPTION (BASE BID)	RATE	BASIS	QUANTITIES
738	CLEANING/SWEEPING			
	CENTER MEDIAN	1 CYC/MO	48 MONTH	48 CYC
	OUTSIDE MAINLANE	1 CYC/MO	48 MONTH	48 CYC
	FRONTAGE ROAD	1 CYC/4 MO	48 MONTH	12 CYC
	DIRECT CONNECTOR	1 CYC/4 MO	48 MONTH	12 CYC
740	ANTI-GRAFFITI COATING (PERMANENT)			68,214 SF

Alternate Bid Table deleted.

GENERAL NOTES

List of Modified Standards

CCCG-WD (MOD)	PW (MOD)	SW-0 (MOD)	BAS-C (MOD)
BD-1 (MOD)	CSAB (MOD)	FD (MOD)	SGEB (MOD)
T223 (MOD)	T401 (MOD)	C402 (MOD)	RW(TEW) (MOD)

ITEM 4: SCOPE OF WORK

All new and existing concrete adjacent to the roadway must be free of stains, dirt, tire marks, etc., at the time of final acceptance. These items include, but are not limited to bridge rails curb and gutter, inlets, and riprap. Blast cleaning of these items will be required to achieve acceptance of the project and will be considered subsidiary to the applicable bid items.

Prior to final acceptance, all new structures and/or structures that have been extended shall be cleaned out by the Contractor. This work will not be paid directly, but will be considered subsidiary to the various bid items.

During final clean-up, the Contractor will be required to remove any foreign material that has accumulated at all bridge abutments and bent caps. The removal of foreign material shall be performed in a manner approved by the Engineer. All work and equipment involved in the removal of this material will be subsidiary to the various bid items of the Contract.

ITEM 5: CONTROL OF THE WORK

All elevations are based on USC & GS datum.

Prior to beginning work in the area of existing utilities, the Contractor shall consult with the utility companies for exact locations to prevent any damage or interference with present

facilities. This action shall in no way be interpreted as relieving the Contractor of his responsibilities, under the terms of the Contract and as set out in the plans and specifications. The Contractor shall repair any damage caused by his operations, at his own expense and shall restore facilities to service in a timely manner.

Prior to any excavation, Contractor shall contact Waco District Signal Shop crew to locate any loop detectors or other buried traffic facilities. The Contractor shall coordinate with the Signal Shop any required relocations or adjustments.

ITEM 6: CONTROL OF MATERIALS

Mixing of materials, storing of materials, storing of equipment, or repairing of equipment on top of concrete pavement or bridge decks will not be permitted, unless specifically authorized by the Engineer. Permission will be granted to store materials on surfaces if, in the opinion of the Engineer, no damage or discoloration will result.

References to manufacturer's trade name or catalog numbers are for the purpose of identification only and the Contractor will be permitted to furnish like materials of other manufacturers provided they are of equal quality, comply with specifications for this project, and are approved by the Engineer.

Submit all fabrication and shop drawings to the Area Engineer for review and approval, unless otherwise directed.

ITEM 7: LEGAL RELATIONS AND RESPONSIBILITIES

The use of existing or new bridges for staging construction equipment or materials will not be permitted without written approval by the Engineer. To obtain this approval submit a working plan to the Engineer including loading information, spacing, and dimensions. This working plan must be signed and sealed by a licensed or registered Professional Engineer.

If utilizing private property for waste disposal sites, field office sites, equipment storage sites, or for any other purpose involved with this project, provide to the Engineer written proof of the property owner's approval for the use of this property. This proof may be in the form of a letter or agreement signed by the property owner or other documents acceptable to the Engineer.

Follow all local ordinances when burning cleared trees or brush.

Where existing pavement adjoins new pavement, saw the existing pavement to a neat transverse and/or longitudinal line to permit adequate joining. This will not be paid directly, but will be considered subsidiary to the various bid items.

Protect all adjoining pavement sections during all phases of construction. Any damages incurred due to Contractor's operation shall be repaired and/or replaced at the Contractor's expense.

The Contractor shall restrict movement of construction equipment and haul trucks to all paved surfaces and will be prohibited from crossing the median, unless specifically authorized by the Engineer. Ingress and egress to the freeway mainlanes shall be through the use of entrance and exit ramps.

All materials, labor and incidentals required for the Contractor to provide for traffic across the highway and for all weather, ingress and egress to public and private property in accordance with Item 7.7 of the Standard Specifications shall be considered as incidental to the various bid items. When construction is completed, the access roadways will be restored to their original condition, as approved by the Engineer.

Personal vehicles of the Contractor's employees shall not be parked within the right-of-way at anytime including any section closed to public traffic, unless the vehicle is being utilized for construction procedures; however, the Contractor's employees may park on the right-of-way at the sites where the Contractor has his office, equipment, and materials storage yard.

The Contractor shall not initiate activities in a project specific location (PSL) associated with a U.S. Army Corps of Engineers (USACE) Permit area that has not been previously evaluated by the USACE as part of the Permit review of this project. Such activities include, but are not limited to, haul roads, equipment staging areas, borrow, and disposal sites. *Associated*, defined here, means materials are delivered to or from the PSL. The Permit area includes all Waters of the United States or associated wetlands affected by activities associated with this project. Special restrictions may be required for such work. The Contractor shall be responsible for any and all consultations with the USACE regarding activities, including project specific locations (PSLs), which have not been previously evaluated by the USACE. The Contractor shall provide the Department with a copy of all consultation(s) or approval(s) from the USACE prior to initiating activities.

The Contractor may proceed with activities in PSLs that do not affect a USACE Permit area, if a self determination has been made that the PSL is non-jurisdictional or proper USACE clearances have been obtained in jurisdictional areas or have been previously evaluated by the USACE as part of the Permit review of this project. The Contractor is solely responsible for documenting any determination(s) that their activities do not affect a USACE permit area. The Contractor shall maintain copies of their determination(s) for review by the Department or any regulatory agency.

The Contractor must document and coordinate with the USACE, if required, prior to any excavation hauled from or embankment hauled into a USACE Permit area by either (1) or (2) below.

1.) **Restricted Use of Materials for the Previously Evaluated Permit Areas.** The Contractor will document both the project specific location (PSL) and their authorization. The Contractor will maintain copies for review by the Department or any regulatory

agency. When an area within the project limits has been evaluated by the USACE as part of the Permit process for this project:

a. Suitable excavation of required material in the areas shown on the plans and cross sections as specified in Item 110 is used for permanent or temporary fill (Item 132, "Embankment") within a USACE Permit area;

b. Suitable embankment (Item 132) from within the USACE Permit area is used as fill within a USACE evaluated area;

c. Unsuitable excavation or excess excavation "Waste" (Item 110) that is disposed at a location approved by the Engineer within a USACE evaluated area.

2.) Contractor Materials from Areas Other than Previously Evaluated Areas. The Contractor will provide the Department with a copy of all USACE coordination or approval(s) prior to initiating any activities for an area within the project limits that has not been evaluated by the USACE or for any off right of way locations used for the following, but not limited to, haul roads, equipment staging areas, borrow, and disposal sites:

a. Item 132, "Embankment," used for temporary or permanent fill within a USACE Permit area; and,

b. Unsuitable excavation or excess excavation "Waste" (Item 110, "Excavation") that is disposed outside a USACE evaluated area.

The total area disturbed for this project is *224* acres. The disturbed area in this project, all project locations in the Contract, and the Contractor project specific locations (PSLs), within 1 mile of the project limits, for the Contract will further establish the authorization requirements for storm water discharges. The Department will obtain an authorization to discharge storm water from the Texas Commission on Environmental Quality (TCEQ) for the construction activities shown on the plans. The Contractor is to obtain required authorization from the TCEQ for Contractor PSLs for construction support activities on or off the ROW. When the total area disturbed in the Contract and PSLs within 1 mile of the project limits exceeds 5 acres, provide a copy of the Contractor NOI to the Engineer and to the local government that operates a separate storm sewer system.

Remove all vegetation from pavement edges, intersections, and driveways prior to planing, seal coat, or ACP operations. This work will not be paid directly, but will be subsidiary to the various bid items.

The Contractor is alerted to the possible presence of swallows under the existing bridges or culverts. Because the Migratory Bird Treaty Act prohibits harm to swallows, their eggs or their nestlings, the Contractor shall not begin potentially disturbing activities on or near the bridge until the birds have abandoned any occupied nests (approximately September 1). Active nests may not be removed regardless of the date.

Prior to the swallows returning to the nests (approximately March 1), abandoned nests shall be removed from the bridge. The Contractor shall prevent the establishment of new nests on any portion of the structure. Methods for preventing the establishment of new nests must be approved by the project Engineer. Examples of acceptable nest prevention methods are bird-deterrent netting and bird-repelling sprays and/or gels to be applied to the structure. This work will not be paid directly, but will be subsidiary to the various bid items.

General Notes for Work in Waters of the United States

1. TxDOT will establish limits of "Waters of the United States" to designate stream banks (Ordinary High Water Marks) and wetland boundaries for the project with wood lathing and flagging. These areas have specific Corps of Engineer Section 404 requirements as stated in the following notes.
2. For bridges, the Contractor shall provide and maintain orange plastic security fencing (called orange fencing) slightly above the Ordinary High Water Marks, on each side of the stream and from ROW line to ROW line. For culverts, the Contractor shall provide and maintain orange fencing slightly above the Ordinary High Water Marks, on each side of the stream on the upstream and downstream culvert ends outside the limits of permanent facilities to the ROW lines. No construction activities or access below the orange fencing shall be allowed, unless approved by TxDOT. The boundaries for wetland areas shall also be established with orange fencing and timber mats must be used to support heavy equipment.
3. The Contractor shall submit detailed site-specific work plans for each "Water of the United States" designated on the EPIC sheet. These plans must be approved by the TxDOT Engineer prior to starting any work in these areas. The plans must also describe facilities and work activities adjacent the Ordinary High Water Marks. The plans must show actual dimensions and materials for:

    - Proposed construction roads and work areas leading to or in close proximity the Ordinary High Water Marks;
    - Temporary material or equipment storage areas in close proximity to the Ordinary High Water Marks;
    - Locations of proposed sediment and erosion control devices;
    - Identification of construction equipment and construction techniques to accomplish the work.

    Once this drawing and supporting information is reviewed and approved by TxDOT, all construction workers should be made aware of the limits designated on the drawings by the Contractor's supervision. Work in all "Waters of the United States" will be limited to the minimum necessary required to construct the bridge, culvert, or roadway fills. Work shall also include all activities needed for bridge and culvert demolitions. Working or

disturbing soil in the stream channel outside the limits of the work plan will not be allowed. Orange fencing shall be provided and maintained to establish the TxDOT approved boundaries in which work may be conducted between the Ordinary High Water Marks.

4. Storm water from disturbed soil areas draining toward wetlands shall either be re-routed or adequate sediment control devices installed to protect the wetland.
5. The Contractor shall select concrete bridge demolition methods that will meet all Section 404 requirements. Bridge demolition between Ordinary High Water Marks may typically include bridge slabs, girders, columns, and foundations. The use of jackhammers or crushing techniques shall be conducted over timber mats wide enough for the downed bridge, and for access and use of construction equipment to fully remove the wrecked structure. Concrete structures requiring demolition shall not be fully processed into small pieces between the Ordinary High Water Marks. Large sections of the wrecked concrete structure should be lifted or moved to an upland area for further processing with the processing area using appropriate sediment control devices. Demolitions should be avoided during high stream levels. Efforts shall be made to minimize bridge rubble, including fine concrete materials produced through the demolition process, water from saw cutting activities, or soils moved during demolition activities from entering the stream.
6. The construction or demolition of culverts should take place in a manner that does not block the flow in a Section 404 stream. Removal or demolition of bridge class culverts should be accomplished similar to bridge demolitions, but timber mats are not required. Efforts shall be made to minimize culvert rubble, including fine concrete materials produced through the demolition process, concrete saw cutting water, or soils moved during demolition activities from entering the stream. Minimal stream channel disturbance should occur both upstream and downstream of culverts between the Ordinary High Water Marks.
7. No excavated material, including spoils from drill shafts, shall be deposited within the Ordinary High Water Marks at any time. Excavated material shall be immediately hauled to an approved temporary upland material storage area on TxDOT ROW. Excess material shall be hauled from the project site or spread above the stream bank limits as directed by the TxDOT Engineer. Adequate stabilization and sediment control devices shall be provided for soil materials spread and graded above the stream bank limits on TxDOT ROW.
8. No equipment or chemicals shall be stored overnight within “Waters of the United States” (between the Ordinary High Water Marks). Special care shall be taken to contain all sanitary waste, petroleum products, or chemicals from leaking or entering the stream. The Contractor shall make provisions to collect all construction related trash and debris each work day and provide adequate containers for storage and removal.

9. Upon completion of work, all excess construction materials, construction debris, timber mats, shall be carefully removed from between the Ordinary High Water Marks of the stream while minimizing additional earth disturbance, protecting existing aquatic vegetation, and limiting stream turbidity. Timber mats, located below the Ordinary High Water Marks shall be carefully removed by construction equipment located above the Ordinary High Water Marks. Stream shaping below the Ordinary High Water Marks, after removal of timber mats or other construction activities, shall only be conducted when directed by TxDOT.
10. Adequate sediment and erosion control devices shall be installed to preclude sediment from entering the stream and to the requirements of the storm water permit. Continuous silt fences with angled end sections and/or rock filter dams shall be installed along the entire length of disturbed soils, slightly above and parallel the High Water Marks of the stream and upslope of orange fencing specified in Item 2. No rock filter dams or other controls shall be installed across Section 404 streams below the Ordinary High Water Marks for either bridge or culvert installations. Large diameter compost logs shall typically be used on the boundaries of timber mats located between the Ordinary High Water Marks. Vegetation shall be established as soon as possible, beginning immediately when areas are brought to the proper lines and grades. Soil retention blankets and channel liners are encouraged to minimize erosion and promote vegetation development.
11. During any construction or demolition operations, soil shall never be pushed from the high bank into the stream channel below the Ordinary High Water Marks. Soil may be removed and shaped as necessary along the stream bank slopes above the Ordinary High Water Marks to facilitate construction with excess material being moved to high ground.
12. Trees removed between the Ordinary High Water Marks shall be saw cut. No mobile construction equipment shall be used to remove vegetation between the Ordinary High Water Marks. Trees will be cut flush with the ground level and pulled above the Ordinary High Water Marks for further processing. Only trees designated by the TxDOT Engineer shall be removed. No chemicals or stump grinding shall be used between the Ordinary High Water Marks. Follow all local ordinances when burning cleared trees or brush.
13. No water shall be pumped from any “Water of the United States” without a permit from the appropriate River Authority or the Texas Commission on Environmental Quality. Upland stock tanks are exempt from this requirement.
14. Temporary construction roads or ramps, if approved by the Engineer, shall be constructed of material that will not erode and transport fine grain sediment downstream under high flows. Acceptable earthwork materials shall be rock material of 4-inch to 6-inch diameter. The use of rock and inert materials such as structural steel sections, wood mats, concrete mats, filter fabrics, and concrete barriers shall be acceptable to build roads and ramps. Fills consisting of clay, sands or other fine grain materials shall not be used between the Ordinary High Water Marks. Loose earth materials, generated by excavation between the Ordinary High Water Marks, shall be re-compacted or moved to a high bank

area before the end of each day. Temporary construction roads and ramps shall be removed as soon as possible and the stream channel returned to a near original condition. Earth materials (clays and sand) that fall from construction equipment onto roads or ramps, between the Ordinary High Water Marks, shall be cleaned and removed daily.

The Contractor shall be familiar with the right-of-way map and the location of all the right-of-way monumentation.

Care shall be taken by the Contractor and its subcontractors to protect and avoid disturbance to the right-of-way monumentation.

If right-of-way monumentation is disturbed by the Contractor, or its subcontractor, the Contractor shall notify the Inspector. Monuments, which are disturbed by the Contractor or its subcontractor, shall be restored by a Registered Professional Land Surveyor designated by the Texas Department of Transportation District Surveyor at the expense of the Contractor.

ITEM 8: PROSECUTION AND PROGRESS

For this project, six-day workweek charges will be charged in accordance with Section 8.3.A.2., "Six-Day Workweek."

For this project, the Critical Path Method schedule shall be created and maintained using SureTrak™ in accordance with SP 008-086.

Prior to Contract letting, the conceptual construction schedule, as developed for the Contract time determination, will be made available by the State at the Area Engineer's office for prospective bidders review. The schedule will be in hard copy form and made available for copying by the Contractor. This supplied schedule is for informational purposes, only. It is the responsibility of the prospective bidder to determine a construction schedule for the work in this Contract.

In addition to the requirements in Special Provisions to Item 8, construction schedules provided by the Contractor shall include line items required to maintain compliance with the storm water permit. Those line items shall include, but not be limited to, installing/removing storm water sediment controls, installing soil retention blankets/channel liners, topsoil/compost placement, seeding (temporary and permanent), and placement of permanent erosion controls, earthwork and grading.

Class HES concrete may be used in High Priority areas in the milestones below for the purpose of expediting the construction in these high traffic areas. The Contractor is to concentrate efforts on these areas immediately once each of these steps of each Phase is commenced. The Contractor shall submit a detailed sequence of work for these areas for the Engineer's approval. In addition, the following milestones will apply to these High Priority areas.

MILESTONE	ROAD USER COST	DURATION OF WORK IN HIGH PRIORITY AREAS	DISINCENTIVE APPLIED
COMPLETION OF DETOUR N (TO BE BUILT IMMEDIATELY AFTER TRAFFIC SWITCH FROM PHASE 1, STEP 2)	$1000/HR	12 HOURS	EACH HOUR THE MILESTONE IS NOT MET
RE-OPENING OF AMITY ROAD UNDERPASS AND ADJACENT FRONTAGE ROADS (PHASE 1, STEP 2)	$2000/DAY	15 WORKING DAYS	EACH WORKING DAY THE MILESTONE IS NOT MET
RE-OPENING OF SHANKLIN ROAD UNDERPASS AND ADJACENT FRONTAGE ROADS (PHASE 1, STEP 2)	$2000/DAY	15 WORKING DAYS	EACH WORKING DAY THE MILESTONE IS NOT MET
RE-OPENING OF TAHUAYA ROAD UNDERPASS AND ADJACENT FRONTAGE ROADS (PHASE 2, STEP 3)	$2000/DAY	15 WORKING DAYS	EACH WORKING DAY THE MILESTONE IS NOT MET

The Contractor will be assessed a lane rental charge for each mainlane closed on IH 35 or for each mainlane obstructed on IH 35 from the time of notice to proceed until substantial completion of all project work. The rental charge will be assessed for each lane or lane closed or obstructed for each direction of traffic on IH 35 mainlanes as follows:

PEAK HOURS				LOW TRAFFIC HOURS	
NO. OF LANES	HOURLY RENTAL	CLOSURE HOURS CREDITED		HOURLY RENTAL	CLOSURE HOURS CREDITED
1	$4,250/HR.	0		$425/HR.	1000

The hourly rental rate will be applied to the number of lanes closed for the time period. For example, if one lane is closed in the northbound mainlanes and one lane is closed in the southbound mainlanes, the hourly rental will apply to each lane closure for the length of time the lane is closed. The closing of one lane of traffic and then detouring that traffic to the frontage roads constitutes only one lane closure. Contractor will be charged for lane rental in excess of the maximum credited hours specified.

Work requiring lane closures will be restricted to the low traffic hours indicated:

Sunday	10 PM	to	Monday	7 AM
Monday	7 PM	to	Tuesday	7 AM
Tuesday	7 PM	to	Wednesday	7 AM
Wednesday	7 PM	to	Thursday	7 AM
Thursday	9 PM	to	Friday	7 AM

Peak Hours are any time other than low traffic hours. In addition, no lane closured will be allowed during the peak hours. The purpose of the peak hour lane rental is to apply a disincentive when operations during low traffic hours are not completed promptly requiring extending lane closures into peak hour times.

The Contractor's attention is called to the fact that work requiring lane closures will be restricted to the nights indicated above. Supplemental lighting in addition to lighting on equipment and work vehicles will be required to insure adequate lighting for workers safety and inspection. All operations including planing, underseal, and HMAC placement must be adequately lighted. This is subject to the approval of the Engineer. This is considered subsidiary to the various bid Items of the Contract.

Lane closures must be coordinated with other projects on IH 35 in the Waco District. Provide one week notice to the Engineer of any planned lane closures to allow coordination.

Placement of traffic control devices for night operations shall not commence until after the start time and all devices shall be removed from the roadway prior to the finish time. All other work not requiring lane closures can be done during daytime work hours.

Paragraph deleted.

No lane, ramp, or freeway closures will be allowed at any hour during the week between Christmas Eve and New Year's Day.

Unless otherwise approved by the Engineer, no lane, ramp, or freeway closures will be allowed between 7 AM Friday and 10 PM Sunday. In addition, these closures will not be allowed: on Good Friday, until midnight Easter Sunday; until midnight Sunday before and after Spring Break, which is typically the second, third, and fourth weeks of March; until midnight Sunday of Texas/Oklahoma football game weekend; after 7 AM Wednesday before Thanksgiving Day thru midnight Sunday after Thanksgiving; after 7 AM December 23 through 7 PM January 2; or on any other high traffic days or holidays as determined by the Engineer.

In the event utility lines needing unforeseen adjustments are encountered during construction operations, alter operations and continue to prosecute the Contract in such a manner that will allow utility adjustments to be made by others.

For all subcontracts, physically attach all provisions listed in the "Contractor's Assurance" to the Subcontract Agreement. Provide a copy of Subcontracts, with attachments, for all DBE Subcontractors. Submit the Subcontracts to the Engineer when submitting the Subcontract approval request.

Failure to substantially complete the project within the established number of working days in accordance with Item 8 shall be assessed the road-user cost of $9,900 per working day.

ITEM 100: PREPARING RIGHT OF WAY

Preserve trees within easements in accordance with Item 100, Article 100.2., unless otherwise directed by the Engineer. Prune trees designated for preservation as directed by the Engineer. All work required in preserving and pruning trees shall be included in the price bid for Item 100.

The removal of trees and vegetation shall be subsidiary to Item 100. Preserve all trees designated by the Engineer.

The removal of the following: existing fence, existing concrete riprap, existing concrete sidewalk, existing concrete driveway, existing concrete curb, existing concrete curb and gutter, existing retaining wall will not be paid directly, but shall be considered subsidiary to the bid Item 100, "Preparing Right of Way."

Burning of vegetation shall not be permitted on state ROW.

The Contractor is prohibited from removing grass vegetation throughout the entire project limits and then ceasing construction for long periods, typically over three weeks. The Contractor schedule shall be developed based on staged vegetation removal, limiting disturbed soil to no more than 25 percent at one time, unless otherwise approved by the Engineer. Should the Contractor not be able adequately to control sediment and erosion for areas disturbed, TxDOT shall substantially reduce the size of areas that the Contractor may disturb soil. Should the project be evaluated to have sediment control problems as a result of the Contractor disturbing excessive amounts of soil, the Contractor shall be required to immediately re-vegetate (seed and water) those disturbed areas at no cost to TxDOT.

ITEM 100, 104 & 496: PREPARING RIGHT OF WAY, REMOVE CONCRETE & REMOVING STRUCTURES

All existing concrete including bridges, riprap, pipe and box culverts, storm drain inlets, safety end treatments, culvert wingwalls, headwalls and pavement is to be removed in accordance with this Item and is to be crushed and recycled back into the roadway as flex base. The Contractor will be required to set up a portable crushing plant in the vicinity of the project. The Contractor will be required to submit, for the Engineer's approval, a written description of the methods and equipment to be used to process the existing concrete so that it meets the requirements of Item 247, "Flexible Base" Grade 4 as specified. Crushed concrete flexbase will be uniformly incorporated into the lower flexbase of the proposed roadway. The portion of the recycled concrete not re-used on this project will become property of the State and stockpiled at the I-35 Temple Maintenance yard and other locations within 20 miles of the project as directed by the Engineer.

ITEM 132: EMBANKMENT

Type C embankment shall consist of suitable earth material such as rock, loam, clay or other materials as approved by the Engineer that will form a stable embankment. In addition to the above requirements, the top 2 feet of embankment, including material used to complete front slopes after final surfacing, shall have a plasticity index less than 25 and a liquid limit less than 50. In fill sections of less than two feet in height, the Contractor will not be expected to remove material below natural ground elevations in order to provide a uniform two-foot layer of low PI Type C embankment. If the Engineer determines that unsuitable material exists below natural ground elevations, then such excavation and replacement embankment material shall be paid under Items 110 and 132.

ITEMS 110 & 132: EXCAVATION & EMBANKMENT

In those cases where fixed features require, the governing slopes indicated herein and on the cross-sections may be varied between the limits and to the extent determined by the Engineer.

Prior to Contract letting, one copy of the earthwork cross-sections will be made available by the State at the Area Engineer's office for prospective bidders review. Earthwork construction cross-section data is also available to the Contractor on a Department-furnished compact disc at the Area Engineer's office. This supplied cross-section plot or computer data is for non-construction purposes, only, and is the responsibility of the prospective bidder to validate the supplied plot or data with the accompanying plans, specifications, and estimates for this Contract.

Design cross-sections and cross-section data will be provided to the Contractor by TxDOT post-letting and shall be used to stake the lines and grades for the project, as directed by the Engineer.

ITEM 160: TOPSOIL

The Contractor may salvage the existing topsoil from the cut/fill areas. Stockpile the salvaged topsoil material at locations as approved by the Engineer. Topsoil shall not be used for general fill, unless there is an excess quantity of topsoil and use is approved by TxDOT. Topsoil stockpiles or topsoil placed along the ROW lines in windrows shall be temporarily seeded to meet storm water permit requirements. Additional offsite topsoil may be required to complete work for this Item.

If additional topsoil is needed for this Item, it shall come from approved sources outside of the ROW. Topsoil must come from a location within 6 inches of the natural ground surface to ensure it contains nutrients and is not sterile soil. Off ROW topsoil shall contain a minimum organic content of 3.5%, based on soil test results.

ITEM 162: SODDING FOR EROSION CONTROL

Block sod (Bermuda Grass) shall be Cynodon dactylon (Bermuda Grass) cut to a minimum depth (thickness) of 1-inch. The sod shall have the following characteristics: (1) uniformity; (2) good color; (3) free of weeds, weed seed, insects, and disease; (4) healthy, virile root system of dense,

thickly matted roots throughout the soil of the sod; (5) adequate moisture to prevent drying out by exposure to the air and sun to the extent as to damage sod.

Prior to laying the block sod, blade the area and rake smooth. Refer to the plans and details for areas to receive the sod. Remove 1-in. of soil along paved edges and curb lines before laying sod and dress the slope to match all exposed edges after placing the sod. Prior to installation of the sod, fertilize the ground with a slow release, homogeneous coated, fertilizer at a rate of one pound per square yard.

ITEM 164: SEEDING FOR EROSION CONTROL

Final grading and stabilization (seeding) shall be achieved as soon as possible and not scheduled only for the end of the project. Final grading and stabilization should be initiated as the overall work progresses and should be scheduled in sequence with completion of base course installation along the length of the road project.

Multiple mobilizations of the seeding crews will be expected to comply with the Construction General Permit of the Texas Pollution Elimination Discharge System requirements for re-vegetating disturbed soils.

Temporary seeding mixtures (cool and warm) shall also include 3 lbs of Bermuda grass seed per acre, with all seeds being planted concurrently.

Temporary cool seed mixtures shall be as stated in the specification or at the option of TxDOT a direct substitution of 30 lbs per acre of Dwarf Annual Ryegrass (Axcella 2 Variety) including the 3 lbs of Bermuda grass seed shall be planted.

For drill seeding installations, the pasture or rangeland type drill shall have a minimum of three seeding compartments to separate the fine and fluffy seeds and must be capable of being calibrated so the seed mixtures will be planted uniformly.

ITEM 166: FERTILIZER

Fertilizer shall be used for permanent and temporary seeding.

ITEM 180: WILDFLOWER SEEDING

Wildflower seeding operations shall be separate from the permanent grass seeding operations and shall be performed in the fall between the months of September and November. Locations for wildflower seeding shall be between the mainlanes and frontage roads as directed by the Engineer. Wildflower seed shall be sown at the recommended depth using a no-till drill seeder.

The species shall be a Texas Mix including but not limited to: Texas Bluebonnet (Lupinus texensis) minimum 16½ pounds PLS per acre; Pink Evening Primrose (Oenothera speciosa) minimum 1 pound PLS per acre; Indian Paintbrush (Castilleja indivisa) minimum 1/4 pound PLS per acre; and Indian Blanket (Gaillardia pulchella) minimum 10 pounds PLS per acre.

Approved sources are:

Wildseed Farms
425 Wildflower Hills
Fredericksburg, TX 78624
800-848-0078

Native American Seed
127 N. 16th St.
Junction, TX 76849
800-728-4043

Applewood Seed Co.
5380 Vivian Street
Arvada, CO 80002
303-431-7333

ITEM 192: LANDSCAPE PLANTING
ITEM 193: LANDSCAPE ESTABLISHMENT

Provide 48 hours notification to the Engineer of the time that plant maintenance will be conducted so that an Inspector may be present during these activities. The Engineer may withhold monthly payment for landscape establishment, if the engineer is not adequately notified of the Contactor's maintenance activities.

Landscape planning will take place between October 15 and March 15. Planting should take place following the dates above and soon after grading of the planting area is complete. Multiple mobilizations may be required for this Item.

ITEM 247: FLEXIBLE BASE

After the existing pavement is scarified and spread evenly over the proposed subgrade, incorporate additional flexible base into the scarified material. Spread the resulting mixture and compact to the required density as required for Item 247 and to the lines and grades set forth in the plans and as directed by the Engineer.

Place the material in approximately equal courses not to exceed 5 inches in depth per course. During mixing and laying operations, sufficient water shall be added to the material to insure that the moisture content is not less than optimum moisture as determined by Test Method Tex-113-E.

TY E flex base consists of flexbase salvaged from this project under Item 251. The requirements listed in the specification data apply to the virgin flexbase. Recycled asphalt pavement (RAP) or crushed concrete generated on this project will be allowed to be blended in the flexbase. Do not exceed 20% RAP or crushed concrete, by weight.

ITEM 251: REWORKING BASE COURSES

Salvaged material not used on this project shall remain the property of the State and shall be stockpiled at the I-35 Temple Maintenance yard and other locations within 20 miles of the project as directed by the Engineer.

Some patches of cement or stabilized base may be encountered while salvaging the existing base. If such material is encountered, it will be removed and disposed as directed by the Engineer. This work will not be paid directly, but will be subsidiary to Item 251.

Indicated quantities of flexible base to be salvaged are for estimating purposes, only. Salvage all acceptable base material encountered in the existing base, including intersection areas, as directed by the Engineer, regardless of quantities involved. This work shall be paid as specified in Item 251.

ITEM 276: CEMENT TREATMENT (PLANT-MIXED)

Ty E base used under this Item shall consist of base salvaged under Item 251 or Ty A flex base.

Wet construction joints between new base and previously placed base; coat with dry cement prior to the addition of new base.

The 4.5% cement shall be mixed with the flexible base material to meet strength requirements.

Cure the cement-treated material with an application of MS-2 or an emulsion approved by the Engineer at a rate of 0.2 gal/sy. The application of this material will not be paid directly, but will be considered subsidiary to Item 276.

ITEM 305: SALVAGING, HAULING, AND STOCKPILING RECLAIMABLE ASPHALTIC PAVEMENT

ITEM 354: PLANING AND TEXTURING PAVEMENT

The top four inches (approximately) of existing asphalt pavement in the mainlanes are suitable and available for re-use in all of the Ty C, Ty D, and Ty B hot-mix. The top 2 inches (approximately) of existing asphalt pavement from the frontage roads is suitable and available for re-use in all Ty C, Ty D, and Ty B hot-mix. All other RAP may be re-used in the bottom 1/2 of the flexible or cement-treated base layers.

RAP not used in this project will become property of the Contractor.

ITEM 310: PRIME COAT

ITEM 316: SURFACE TREATMENTS

No asphalt treatments shall be applied just prior to a rain event that could result in chemical asphalt or any asphalt by-product pollutant being washed into a stream.

ITEMS 310, 316, 341, 342, AND 346 : PRIME COAT, SURFACE TREATMENTS, DENSE-GRADED HOT-MIX ASPHALT (QC/QA), AND PERMEABLE FRICTION COURSE (PFC)

The Contractor may request approval from TxDOT to clean equipment located on TxDOT ROW, which is engaged in asphalt work such as trucks, lay down machines, and distributors. TxDOT may allow cleaning of asphalt equipment on TxDOT ROW only when all of the following conditions are met on a continuous basis:

1. Cleanup activities must take place no closer than 300 feet from a off ROW drainage discharge.
2. No diesel or fuel is used for cleaning.
3. The names of all cleaning agents have been previously submitted to TxDOT and the Contractor has submitted both a spill prevention and cleanup plan for the cleaning chemicals being used.
4. All excess cleaning liquid must be captured on plastic or tarps and disposed properly off ROW.
5. Excess asphaltic products originally planned to be used for road construction, but deposited along the roadway edge due to having too much material, or due to equipment start/stops and minor equipment upsets shall be properly removed off ROW or to a location approved by TxDOT within 48 hours.

ITEM 310: PRIME COAT

When cutback asphalt is used, a minimum curing time of 7 days shall be required before application of Item 31, unless otherwise authorized or directed by the Engineer.

ITEM 316: SURFACE TREATMENTS

The Engineer will select the asphalt for surface treatments from the types and grades shown on the plans.

No asphalt for surface treatment items will be placed between October 1 and May 1 for AC, unless approved by the Engineer in writing.

No asphalt for surface treatment items will be placed between October 1 and April 1 for emulsions unless approved by the Engineer in writing.

All trucks hauling materials to be paid by truck measurement shall be “struck off” prior to delivery to the project.

Protect all existing bridges, curbs, and other exposed concrete surfaces within the limits of these projects as much as practicable from asphalt materials by any method that is acceptable by the

Engineer. Remove any excessive asphalt materials deposited on these surfaces in a manner approved by the Engineer at the Contractor's expense.

During application of the surface treatment, if existing conditions warrant, the lane widths, transitions, and intersection areas may be varied as directed by the Engineer.

Use a medium pneumatic roller meeting the requirements of Item 210 as directed by the Engineer. This work will be subsidiary to the various bid items.

Remove dirt and debris that has accumulated in the curb and gutter sections prior to beginning paving. Likewise, remove all vegetation from pavement edges prior to seal coat operations. This work will be subsidiary to other items.

ITEM 341: DENSE-GRADED HOT-MIX ASPHALT (QC/QA)
ITEM 342: PERMEABLE FRICTION COURSE (PFC)
ITEM 346: STONE-MATRIX ASPHALT

The Contractor shall provide a ticket writer during hot-mix operations.

Hydrated lime shall be added to the hot-mix asphalt as an additive to improve quality of the mixture. The lime shall be added at a rate of 1.0%, by weight, of the total aggregate. The lime shall meet the requirements of Type A, hydrated lime, or Type B, commercial lime slurry, that meets the requirements of DMS-6350, "Lime and Lime Slurry." The lime shall be added to the fine aggregate, pugmill-mixed, and stockpiled a minimum of 24 hours prior to introduction to mixing plant. Other methods of adding lime that produce comparable results and that are acceptable to the Engineer may be considered. Lime shall not be paid directly, but will be considered as subsidiary to various bid items.

Evaluate the mixture proposed for use for moisture susceptibility in the mixture design and production stages by Test Method Tex-530-C, unless otherwise directed by the Engineer. Maximum stripping of 0% is required. If more than 0% stripping occurs, additional anti-stripping agent may be required.

The placement pay factors for shoulders placed separately from the travel lanes shall be based on in-place air void determinations.

For this Contract, provide a continuous flow of material to the paver by means of a self-propelled material transfer vehicle (MTV). The (MTV) shall consist of a mobile hopper with a sufficient storage capacity and conveyor that will provide a non-stop placement of the hot-mix asphalt pavement for all travel lanes and shoulders. The MTV shall have a system of augers or other approved systems to remix the mixture during the transfer process. The Engineer shall approve the MTV before use. This is required to minimize segregation and improve the ride quality.

Utilize a paver ski or mobile string line at least 40 ft. long during placement of all hot-mix placed with an asphalt paver, unless otherwise approved by the Engineer.

Any truck bed releasing agent shall be approved by the Engineer.

ITEM 341: DENSE-GRADED HOT-MIX ASPHALT (QC/QA)

The target laboratory-molded density for the Type D mix (RBL) in the mainlanes and ramps (Alt Bid) will be 98.0%. All other dense-graded mixes will have a target laboratory-molded density 97.0%

RAP will be allowed in types B, C and D of hot-mix under this item. The RAP must be obtained from the top 4 inches (approximately) of asphalt pavement in the mainlanes on this project or from one of the approved state owned stockpiles. The RAP must be obtained from the top 2 inches (approximately) of existing asphalt pavement from the frontage roads on this project or from one of the approved State-owned stockpiles. The locations and availability of the RAP at various State-owned stockpiles can be obtained from the Engineer at the time of letting.

RAP from Contractor-owned sources may be used if the RAP is fractionated. The coarse fraction of Contractor-owned RAP will not be allowed, if it consists primarily of siliceous aggregates.

ITEM 360: CONCRETE PAVEMENT

Contractor personnel performing job-control testing on concrete must be ACI-Certified. Provide a copy of the certification paper to the Engineer upon arrival and before testing at job site. Furnish hard copies of calibration reports for testing equipment when non-TxDOT approved equipment is used to test concrete.

Maintain on the jobsite sufficient polyethylene fabric, as directed by the Engineer, to cover a minimum area of concrete pavement 600 feet long and 25 feet wide.

The coarse aggregates used in the concrete paving mixture shall produce concrete with a coefficient of thermal expansion (CoTE) not greater that 6.0×10^{-6} inch/inch/°F when tested in accordance with Test Method Tex-428-A. Specimens shall be made and cured in accordance with Test Method-Tex-447-A and be at least 7 days old before testing. The Construction Division will perform all testing for CoTE for aggregate acceptance and test results shall be final.

When conventional paving methods are used (forms), a longitudinal finishing machine will be required. The longitudinal finishing machine shall be provided with a longitudinal float not less than 10 feet in length, adjusted to a true plane. It shall be power driven, mounted in a substantial frame equipped to ride on forms, and shall be so designed and operated as to finish the required grade. In lieu of the longitudinal finishing machine, the Contractor may use a longitudinal trans-angular float which is adjustable to crown and grade. This type of float is also known by various trade names such as V Finisher, Lewis Trans-angular Finisher, C.M.I. Tube float, etc. The operation of the longitudinal trans-angular float shall be as approved by the Engineer.

Place construction, sawed and construction joints in accordance with the Pavement Detail sheet and as directed. Joint locations, other than as shown on the plans, are subject to approval. Pavement leaveouts are required on this project, as necessary, to provide for traffic at driveways and side streets as shown in the plans or as directed. The cost of providing these leaveouts, including the construction of a suitable crossover connection at each site, is not paid for directly but is considered subsidiary to this item.

Concrete curing compounds shall not be applied in a manner that the chemical will be spilled, dripped or be discharged into streams. Containers and rags used during application of curing compound shall be properly disposed of off project. Do not store curing compound containers and drums on TxDOT ROW.

Prior to concrete paving, attend a pre-concrete paving conference at the jobsite. All project supervisory personnel involved in the concrete paving are required to attend this conference. TxDOT personnel will include representatives of the Cement Council of Texas.

ITEM 400: EXCAVATION AND BACKFILL FOR STRUCTURES

Cut and restoring pavement shall be as shown on the Miscellaneous Drainage Detail sheet. The Contractor may utilize full-depth cement-stabilized backfill in lieu of the HMAC layers shown on this detail sheet.

Class B bedding is required, if rock is encountered.

Structural excavation is not paid directly, but is considered subsidiary to pertinent items.

Aggregate for cement-stabilized backfill shall be Grade 3, 4, or 5 coarse aggregate shown in Item 421, “Hydraulic Cement Concrete.”

ITEM 416: DRILLED SHAFT FOUNDATIONS

ITEM 420: CONCRETE STRUCTURES

Column lengths shown on the plans shall be used to calculate the top of drilled shaft elevations for the determination of pay quantities. Pay quantity for bent concrete shall be plan quantity.

Soil from foundation drilling shall be removed immediately from the stream channel area to higher ground above the Ordinary High Water Marks. No earth drill spoil material shall be deposited into water of a stream. If used, drilling mud will not be allowed to enter into any stream.

ITEM 420: CONCRETE STRUCTURES

The Contractor’s attention is called to the fact that conduit for illumination or other purposes may be required in the construction of the bridge slabs, columns, caps, or other parts of the bridge structure(s). Refer to the Bridge and Illumination layouts for details.

Reduce headwall heights, if necessary, to provide a maximum of 3 inches projection above the roadway slope. No increase or decrease will be made in plan quantities of concrete or reinforcing steel for this work.

Paint the Control-Section-Structure (CSS) number on the right side of each approach end of finished bridges or culverts, using black exterior paint and stencils that result in two-inch high numbers. All numbers shall be legible and free of smears or drips. Unless otherwise directed by the Engineer, the nine-digit CSS number shall be placed within two feet of the end of each bridge type as follows: concrete or steel girder bridge on outside of girder; slab-type bridge on outside of slab; and bridge class culverts on outside of headwall. The painting of these numbers will not be paid directly, but will be considered subsidiary to the various bid items.

All construction products used to construct concrete structures and bridges including, but not limited to plastics, Styrofoam, grease, glues, caulking, adhesives, solvents, paints, cleaning agents, and rubber shall be handled in a manner that the construction products or empty containers/tubes shall not be allowed into any stream. Construction debris developed from the cutting, grinding, or sizing of solid construction products including plastics and Styrofoam shall not be allowed on the ground or to blow into a stream.

Concrete curing compounds shall not be applied in a manner that the chemical will be spilled, dripped, or be discharged into streams. Containers and rags used during application of curing compound shall be properly disposed off project. Do not store curing compound containers and drums on TxDOT ROW.

Ensure steel forms are free of rust immediately prior to placing concrete.

Refer to Item 427, “Surface Finishes for Concrete” for additional requirements for formwork, concrete curing, and form removal for off-the-form finishes.

Submit a written work plan to the Engineer including materials and construction methods that affect the quality of the concrete finish. Prior to construction of any cast-in-place concrete, construct mock-up elements as indicated to simulate the materials and methods intended for use and demonstrate the adequacy of the concrete surface. See plan sheets 1674a -1674c “Mock-Up Details” for additional information.

Mock-up construction is subsidiary to Item 420 and will not be paid directly. The mock-up shall include, at a minimum, at least 6-ft. of column height. Construct the mock-ups using the proposed the concrete mix, forming material, joint sealer (if used), form release agent, and all other construction procedures (including curing) listed in the work plan. Use the same surface finishes outlined in Item 427. Submit a written repair procedure with materials and methods used that is in accordance with these General Notes and Specification and Standard Specification Item 427. Apply this repair procedure to each mock-up for concurrence by the Engineer. Use

this repair procedure for all "Surface Area I" concrete on the project, unless amended by the Engineer.

The finish quality of the mock-up concrete (including repairs) shall have a pleasing appearance as described above prior to construction of any columns or caps. A new mock-up may be necessary if the finish, as determined by the Engineer, is not adequate or if other materials and procedures are intended for use or are changed during the course of construction. The mock-up shall remain on the job and serve as a benchmark for satisfactory appearance.

Prior to mock-up construction, attend a pre-concrete forming and finishing conference at the jobsite. All project supervisory personnel involved in the construction of cast-in-place concrete are required to attend this conference. This conference shall include discussion on the Contractor's plan for insuring that single concrete bridge structure elements, placed in multiple placements, are produced with identical concrete materials and placed in a manner to provide a uniform color surface finish without variations between placements.

Do not use membrane curing.

Mass concrete will be a plans quantity item.

Sawcut grooves not required in the bridge decks for the following structures: Amity Rd, Tahuaya Rd, Shanklin Rd, and Loop 121.

Use an approved UV disappearing curing compound rather than the standard approved curing compounds for structures receiving opaque sealer coating/finish.

ITEM 421: HYDRAULIC CEMENT CONCRETE

Air-entrained concrete is not required for structural concrete. If the Contractor elects to include entrained air in the concrete, the requirements of the Special Provision will apply.

ITEM 423: RETAINING WALLS

For the concrete block walls, furnish and construct a Keystone Country Manor® retaining wall system, or approved equal, in accordance with the specifications and in reasonably close conformity with the lines, grades, and dimensions shown on the plans. Prepare foundation soil, furnish, and install leveling pad, unit drainage fill and backfill to the lines and grades shown on the construction drawings. Furnish and install geogrid soil reinforcement of the type, size, location, and lengths recommended by the manufacturer.

Follow all manufacture's recommendations in construction of concrete block walls, including the application of adhesives to fasten the blocks.

Modular concrete units shall conform to the following architectural requirements:

1. Face Color – tan or gray blend;
2. Face Finish – soft split antiqued Keystone Country Manor® or approved equal. Other face finishes will not be allowed without written approval of the Engineer;
3. Bond Configuration - running with bonds nominally located at midpoint vertically adjacent units, in both straight and curved alignments;
4. Exposed surfaces of units shall be free of chips, cracks or other imperfections, when viewed from a distance of 10 feet under diffused lighting.

Obtain "Approved Concrete Block Retaining Wall Systems" from the suppliers list located at:

http://www.dot.State.tx.us/business/contractors_consultants/bridge/retaining_wall.htm

Use Type D backfill when constructing MSE retaining walls.

Please see MSE Retaining Wall Surface Detail sheet for textures of panels.

Mow strips along retaining walls are required and shall be subsidiary to Item 423.

Obtain approved MSE panel systems from the suppliers list located at:

http://www.dot.State.tx.us/business/contractors_consultants/bridge/retaining_wall.htm

The Texas Emblem inset shown on the Standard sheets for inclusion on retaining walls shall be placed at locations approved by the District Landscape Architect and shall be verified at the time of shop drawing review and approval. In addition, the inset area shall receive a concrete paint finish in accordance with Item 427. The Contractor shall provide color samples to the District Landscape Architect for approval. The painted finish of the Texas Emblem shall then receive a Type III Anti-Graffiti Coating similar to the retaining wall formliner area. Painting of the inset area will not be paid directly, but shall be subsidiary to Item 423.

Use an approved UV disappearing curing compound rather than the standard approved curing compounds for structures receiving opaque sealer coating/finish.

Temporary Earth Walls associated with the phased construction at the drilled shaft retaining wall abutments shall have a design life of 10 years and have galvanized hardware. Hardware cloth shall be used in lieu of the filter fabric face backing. All other stand alone Temporary Earth Walls that will be in service for 3 years or less shall be built in accordance with Item 423 and the unmodified RW(TEW) Standard.

ITEM 427 SURFACE FINISHES FOR CONCRETE

Provide culverts with Surface Area I, rub finish.

Provide all Lampasas River Bridges with Surface Area II rub finish, except finish railing as described below.

Provide all other concrete structures with the following special finishes:

- Retaining wall panels: Formliner finish.
- Precast or cast-in-place retaining wall coping: White cement with off-the-form finish, or opaque sealer coating with anti-graffiti coating having special application requirements.
- Railing and concrete traffic barrier: White cement with off-the-form finish, or opaque sealer coating with anti-graffiti coating having special application requirements.
- All other cast-in-place concrete listed under Surface Area 1: Off-the-form finish.
- Anti-graffiti coating applied after with opaque sealer coating as described above will be considered subsidiary.

Apply an Ordinary Surface Finish to elements not listed in "Surface Area I."

Special finishes listed above will not be paid directly and are considered subsidiary to the various items.

Off-the-Form Surface Finish is supplemented by the following and shall apply to Readily-Visible Concrete Surfaces, only:

- Off-the-Form Finish shall have a pleasing appearance with minimal color and texture variations and minimal surface defects when observed at a distance of approximately 20 feet. Provide this finish by using non-staining, non-porous, high-quality forming materials as specified under Item 427.3.E. Use the same type of forming materials for like elements for the entire structure.
- Engineer shall determine acceptability of finished surfaces.
- Refurbish or replace forms if they discolor or cause a variation from the finish established in the mock-up as determined by the Engineer.
- Avoid "pinking" of concrete due to reddening of young overlaid plywood. Treat plywood or use a release agent that prevents pinking. If pinking occurs, clean the green concrete surface as soon as the forms are removed. If pinking is still not removed by washing or does not disappear with time, clean the plywood after submitting a written cleaning procedure approved by the Engineer.
- Use similar curing times for a particular type of element (e.g. bent, rail), if possible. Do not allow more than 3 days difference in curing duration for either form-curing, wet mat curing, or a combination of the two.

- Once form removal commences on a particular continuous surface, continue work uninterrupted until all forms are removed to prevent discoloration due to differing form-curing times.
- Contractor shall provide a system such as Visqueen plastic sheeting for covering and/or protecting bent and abutment concrete and colored textured concrete from staining during erection of superstructure. This system shall be reviewed and approved by the Engineer prior to bridge construction. If for any reason the approved system fails to perform properly, the system will be rejected and a new system must be approved by the Engineer. Work and materials necessary for protecting concrete shall be considered subsidiary to Items 420 and 427.
- Drip pans shall be removed from visible sight as directed by the Engineer after the bridge deck(s) are completed.

Special Application Requirements for Opaque Sealer Coating/Surface Finish:

- Cure new concrete surfaces for 60-90 days prior to application of coating.
- Use an approved UV disappearing curing compound rather than the standard approved curing compounds.
- Perform PH tests as directed by the Engineer and in accordance with Standards from the Society of Protective Coatings until a PH of 9 or lower is achieved to insure the concrete is sufficiently cured so as to not reject the coating materials.
- Sandblast concrete surfaces to produce a Level 3 surface texture measured by using the International Concrete Restoration Institute (ICRI) standard gauge CSP-3 rubber chart that depicts the level of sandblasting achieved.
- Waterblast concrete surfaces at 3000 psi to remove all dust and debris.
- Wait a minimum of 24 hours after sand and waterblast cleaning to allow thorough drying of prepared concrete surface.
- Apply water repellant 40% silane at 100 sq. ft. per gallon when air temperature is 40 degrees and rising and is no greater than 95 degrees.
- Wait a minimum of 12 hours to start opaque sealer application after concrete sealer application.
- Provide the District Landscape Architect with an opaque sealer color chart for selection of color prior to ordering materials.
- Apply two coats of opaque sealer for a total maximum application rate of 200 sq. ft. per gallon when air temperature is 50 degrees and rising and is no greater than 95 degrees.

– Apply Anti-Graffiti Coating Type II (Permanent) after opaque sealer coating has thoroughly dried. Follow requirements under Item 740 as well as manufacturer's recommendations for additional application requirements.

The above requirements supplement is outlined under Item 427. All requirements specified herein and under Item 427 to achieve the required finish are not paid directly, but are subsidiary to the pertinent concrete structure items.

The Texas Emblem inset shown on the Standard sheets for inclusion on retaining walls shall be placed at locations approved by the District Landscape Architect and shall be verified at the time of shop drawing review and approval. In addition, the inset area shall receive a concrete paint finish in accordance with Item 427. The Contractor shall provide color samples to the District Landscape Architect for approval. The painted finish of the Texas Emblem shall then receive a Type III Anti-Graffiti Coating similar to the retaining wall formliner area. Painting of the inset area will not be paid directly, but shall be subsidiary to Item 423.

ITEM 432: RIPRAP

Locations and quantities may be varied, as directed, by the Engineer to accommodate field conditions.

Weep holes and granular material are required and locations shall be determined prior to placement of concrete riprap at bridge abutments.

The sodium sulfate soundness requirement for material used in rock riprap is waived for this project.

Stone Riprap (Protection) shall meet the following requirements:

Use either boulders or quarried rock. Neither the breadth nor the thickness of any piece of riprap should be less than one-third of its length. Ensure that in-place riprap meets the gradation requirements shown in Table 1.

TABLE 1
IN-PLACE STONE RIPRAP (PROTECTION) GRADATION REQUIREMENTS

THICKNESS	MAX. SIZE (LBS)	90% SIZE* (LBS)	AVG. SIZE** (LBS)	8% SIZE*** (LBS)
12 IN.	200	80-180	30-75	3
15 IN.	320	170-300	60-165	20
18 IN.	800	460-720	175-300	25
21 IN.	800	460-720	175-300	25
24 IN.	1,000	550-850	200-325	30
30 IN.	2,600	1150-2250	400-900	40

***** Size such that 10% of total riprap stone, by weight, is larger and 90% is smaller.

****** Size such that 50% of total riprap stone, by weight, is larger and 50% is smaller.

******* Not more than 8% of total riprap stone, by weight, consists of pieces weighing less than number of lbs indicated.

Determine the gradation of the finished, in-place riprap stone under the direct supervision of the Engineer. Perform a minimum of one test for each 2,500 sq yd of surface area of riprap or fraction of a sq yd. Suspend placement of the next 2500 sq yd area of riprap until previously placed stone is tested for gradation and found acceptable.

Use the following procedure to test gradation of in-place material:

Sample stones from an area of full-thickness riprap selected by the Engineer. Square dimensions of the sample area must be a minimum of 3 times greater than the depth of riprap (i.e., 24-in. riprap from a minimum 6-ft by 6-ft square sample area).

Weigh and record each stone individually. Record as one weight the cumulative weight of all stones that individually weigh less than the 8% size.

Arrange these weights in rank order from the smallest to the largest, and accumulate the weights. The collective weight of the stones weighing less than the 8% size must be the first weight.

Calculate the value of 90% and 50% of the accumulated weight.

Determine the individual stone weight corresponding to the 90% accumulated weight and the 50% accumulated weight.

Calculate the percentage of the accumulated weight that the 8% size equals.

On Corps of Engineers Form ENG 4055, “Riprap Gradation Curves,” plot the upper and lower specifications limits and draw the specification envelope.

Plot the weight of the largest individual stone on 100% finer by weight line.

Plot the individual weight of the stone corresponding to 90% of the accumulated weight (determined in Step 5) on 90% finer by weight line.

Plot the individual weight of the stone corresponding to the 50% accumulated weight (determined in Step 5) on 50% finer by weight line.

Plot the percent of the accumulated weight that the collective weight of the stones weighing less than the eight 8% size on the eight 8% weight line. (Determined in Step 6.)

Plot the line through the points plotted in Steps 8-11, and determine if it falls within the specification envelope.

TABLE 2
SAMPLE GRADATION FOR 15-IN. RIPRAP

INDIVIDUAL STONE WEIGHT	RANK-ORDER STONE WEIGHT	ACCUMULATED STONE WEIGHT	REMARKS
235	113*	113	113 - 3.9% (STEP 6)
112	24	137	
240	24	161	
280	25	186	
247	26	212	
133	27	239	
123	33	272	
36	35	307	
54	36	343	
56	37	380	
41	37	417	
33	38	455	
127	41	496	TOTAL ACCUMULATED WEIGHT = 2864 (STEP 3)
114	43	539	90% ACCUMULATED WEIGHT = 2578 (STEP 4)
37	52	591	CORRESPONDS TO 247 (STEP 5)
24	54	645	50% ACCUMULATED WEIGHT = 1432 (STEP 4)
97	56	701	CORRESPONDS TO 115 (STEP 5)
43	58	759	113 = 3.9% OF ACCUMULATED WEIGHT (STEP 6)
71	62	821	
26	66	887	

INDIVIDUAL STONE WEIGHT	RANK-ORDER STONE WEIGHT	ACCUMULATED STONE WEIGHT	REMARKS
66	71	958	
25	82	1040	
58	97	1137	
116	112	1249	
27	114	1363	
82	116	1479	1432 (STEP 4) – 115 (STEP 5)
24	123	1602	
35	127	1729	
38	133	1862	
37	235	2097	
52	240	2337	
62	247	2584	2578 (STEP 4) – 247 (STEP 5)
113*	280	2864	
(2)	(3)	(3)	

* Collective weight of all stones weighing less than 8% size.

Stone Riprap (Type F) shall meet the following requirements:

Use stones that are a minimum of 6 inches in their least dimension.

ITEM 450: RAILING

The elliptical tube shall be used for all T401, T401 (MOD), and C402 (MOD) railing.

Do not slip-form the T401(MOD), C402(MOD), and the T223(MOD) railing.

Use an approved UV disappearing curing compound rather than the standard approved curing compounds for structures receiving opaque sealer coating/finish.

ITEM 423: RETAINING WALLS

ITEM 450: RAILING

ITEM 514: PERMANENT CONCRETE TRAFFIC BARRIERS

White hydraulic cement will be required for all traffic rail, barrier, and retaining wall coping, unless the optional finish specified under Item 427 is used.

Blast clean all railing and barrier wall, and retaining wall coping in accordance with Item 427 prior to final acceptance of the project when white cement finish is used. This work will be considered subsidiary to Item 450 and Item 514.

Insure slip formed barrier and cast-in-place barrier will be uniform in color and texture.

When supplying aggregates from a source that is excluded from using Option 7 for ASR mitigation, substitute fly ash for the Portland cement at a rate of 20 percent of the cement. No changes to the aggregate sources or fly ash source will be allowed, unless approved by the Engineer in writing.

Use an approved UV disappearing curing compound rather than the standard approved curing compounds for structures receiving opaque sealer coating/finish.

ITEM 432: RIPRAP

ITEM 529: CONCRETE CURB, GUTTER, AND COMBINED CURB AND GUTTER

Blast clean all concrete curb, curb and gutter and riprap in accordance with Item 427 as part of the final clean-up and acceptance process. Other methods may be approved to obtain a uniform clean appearance, free of marks, stains, etc., at the time of final acceptance.

ITEM 462: CONCRETE BOX CULVERTS AND STORM DRAINS

Joints between precast concrete box culverts shall be preformed flexible joint sealants as described in Item 464.3C, "Jointing."

Reshape embankment side slopes, provide embankment as required, and add topsoil to achieve a smooth uniform finish around the installation of the safety end treatments and culvert extensions as directed by the Engineer. Finishing and reshaping work will be subsidiary to Items 132, 162, and 467.

ITEM 464: REINFORCED CONCRETE PIPE

Install all reinforced concrete pipe on this project using preformed flexible joint sealant.

ITEM 467: SAFETY END TREATMENT

Welds are not allowed to splice Safety Pipe Runners. A Safety Pipe Runner shall be one continuous pipe.

ITEM 496: REMOVING STRUCTURES

Submit to the Engineer, for approval, a detailed plan for bridge removal including methods, equipment, and sequencing.

Plans of the existing bridges are available at the office of the Area Engineer for the purpose of making copies for the prospective bidders.

Remove and salvage all dedication medallions and/or plaques found attached to any existing bridge structure being replaced. Each medallion and plaque shall be cleaned free of all concrete and foreign matter, and shall be turned over to the Engineer in a timely manner. All work performed in the removal, salvaging, and cleaning of the medallions and plaques will not be paid

directly, but shall be subsidiary to the various bid items. The Engineer shall collect the medallions and plaques, tagging each of them with its respective highway number, name of creek or stream crossing, and date of removal, and send them to the Waco District Environmental Coordinator for further handling.

The Contractor shall make every attempt to prevent debris and rubble from falling into the stream during the removal of the bridge. If any debris or rubble should fall into the stream, it shall be removed as soon as possible. Relocate large pieces of any demolished bridge structure or culvert to the high bank and outside of the Ordinary High Water Marks before processing into smaller pieces. Concrete fines shall be minimized from entering a stream.

The Contractor shall comply with any notification(s) dates made by TxDOT to the Texas Department of Health, for asbestos abatement and bridge demolitions.

ITEM 502: BARRICADES, SIGNS AND TRAFFIC HANDLING

A meeting between the Contractor and Engineer to discuss upcoming changes in construction phasing and traffic switches is required at least 14 days prior to the phase change. Items to be discussed at this meeting include temporary signing, traffic control, pavement markings, the processes necessary for the phase change, and Subcontractor scheduling.

All signs, delineators, object markers, and route markers shall be in place prior to opening each phase of construction to traffic. Existing signs may be used and relocated to temporary mounts when prior approval of the Engineer is given. Any work done relating to this relocation will not be paid directly, but considered subsidiary to Item 502.

When a culvert extension, inlet construction, and/or safety end treatment and open excavation, etc. is within 30 feet of a travel lane, delineate these areas as shown on the BC Standard sheets. In addition, a 4-foot high plastic construction fence shall be required at or around any structure or obstruction that would be a hazard to pedestrians, unless otherwise approved by the Engineer.

This fence shall be erected in a manner acceptable to the Engineer. Construction fencing will not be paid separately, but will be considered subsidiary to Item 502.

During construction, erect and maintain accurate clearance signs (W12-2 or W12-3), in accordance with the *Texas Manual on Uniform Traffic Control Devices* (TMUTCD) on all underpass structures. The mounting method for the temporary clearance signs is subject to approval of the Engineer. Temporary clearance signs will not be paid directly, but will be considered subsidiary to the various bid items.

Law enforcement assistance will be required for this project and is expected to be required for major traffic control changes and lane closures. Coordinate with law enforcement as directed or agreed by the Engineer.

It is intended that two marked vehicles be utilized for each lane closure, with one vehicle positioned near the beginning of the lane taper and the other vehicle proceed moving to position itself to be in advance of the traffic queue to sufficiently warn approach vehicles of slowed or stopped traffic.

The Contractor Responsible Person (CRP) shall be certified by TEEX, ATSSA, the National Safety Council, or other approved organization. Certifications shall be submitted to the Engineer at the pre-construction meeting.

The Contractor Responsible Person (CRP) for work zone traffic controls shall inspect and insure any deficiencies are corrected each and every day throughout the duration of this Contract. Any misaligned or damaged traffic control devices shall be repaired as soon as practical after deficiency is discovered.

In addition to providing a Contractor's Responsible Person and a phone number for emergency contact, have an employee(s) available to respond on the project for emergencies and for taking corrective measures within 30 minutes.

Place advisory speed plates (CW13-1) in accordance with the TMUTCD and as directed by the Engineer. Signs (CW13-1) shall not be used with any signs other than a warning sign, nor shall it be used alone. Sign mounting height shall be seven (7) feet minimum to the bottom of the speed plate.

At locations where new traffic signals are being installed and no existing traffic signals are in place, install temporary "SIGNAL AHEAD" signs (W3-3, 36x36). Place the signs when the new signal is turned on flash mode and remain until the barricades are removed or as approved. Payment for the supply and installation of the temporary signs will be subsidiary to Item 502, "Barricades, Signs, and Traffic Handling."

Any work being done above travel lanes on the overhead sign bridge will require the lanes to be closed for traffic safety.

The **shadow vehicle** with truck-mounted attenuator (TMA) will not be optional, but will be required as shown on the appropriate Traffic Control Plan sheets. Truck-mounted attenuators shall meet the requirements of the Compliant Work Zone Traffic Control Device List. The use of truck-mounted attenuators shall not be paid directly, but shall be considered subsidiary to Item 502.

Unless otherwise shown on plans, where there is excavation adjacent to the pavement edge, provide adequate warning signs, vertical panels, drums, and reflectors at the pavement edge, as directed by the Engineer. Treat pavement drop-offs created by ACP operations in a similar manner and in accordance with the details shown in the plans.

When excavation is required next to a travel lane carrying traffic and widening is not completed by the end of the day's operation, and unless otherwise permitted in the plans, place sufficient backfill against the edge of the travel lane in order to provide a 3:1 slope. The backfill used shall be durable crushed stone type of flexible base or other materials approved by the Engineer. When work is resumed on this excavated area, this backfill material shall be incorporated into the road work or disposed as approved by the Engineer. Materials and labor for this work will not be paid directly, but will be subsidiary to the various bid items.

Equip all construction equipment involved in roadway work with a permanently-mounted warning light with amber lens as approved by the Engineer.

All night time operation including planning, underseal, HMAC placement, bridge construction, concrete paving, etc. must be adequately lighted using balloon-type lights.

For nighttime flagging operations, each flagger station shall be lighted with portable light plants using balloon-type fixtures approved by the Engineer. The flagger shall wear Class 3 reflective garments. Lights shall be positioned as to not blind motorists.

ITEM 504: FACILITIES FOR FIELD OFFICE AND LABORATORY

For this project, furnish one field office Type B Structure.

The field office structure(s) shall be for the sole use of TxDOT employees, unless otherwise directed by the Engineer. Any hazardous materials stored or utilized in the structures shall be with the approval of the Engineer; any unauthorized hazardous materials in the structure when it arrives at the site shall be removed by the Contractor or his agents before work begins and TxDOT employees utilize the facility.

The field office structure shall be furnished prior to the beginning of work. In addition to the other requirements, a minimum of: three desks; six chairs; one file cabinet; and two equipment storage closets shall be provided. Each closet shall provide a minimum of 3 feet by 3 feet of floor space, or equivalent, and shall have provisions for locking securely.

A telephone shall be installed in the field office at the Contractor's expense. One phone line and one data line shall be provided for the telephone. The monthly charges shall be the responsibility of the Contractor. This will not be paid directly, but will be considered subsidiary to various bid items.

The parking lot shall be a minimum of 3,000 square feet with an all-weather surface and enclosed by a chain link fence with at least one vehicle gate.

Provide water fountain or bottled water fountain able to supply cold water. Bottled water shall be provided by the Contractor.

Provide a structure (beam house) for use as a curing location, tank room and test area for concrete beams and cylinders made for this project. The Contractor must supply all of the curing tanks and adequate space for storage. The structure shall include a water faucet.

Furnish for the Engineer's exclusive use a laboratory meeting the specified Type D Structure. The building shall be located at the Contractor's hot-mix plant site and separate from the Contractor's laboratory.

The use of space heaters for the purpose of heating the structure is unacceptable. The building must be structurally sound and pose no safety hazards. The laboratory must meet all the above requirements within two (2) weeks prior to beginning of work.

ITEM 506: TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL CONTROLS

No soil disturbing activities shall begin on any section of TxDOT ROW without adequate sedimentation controls first being installed and functioning at adjacent drainage outfalls. Begin and continuously prosecute the repairs, additions, and maintenance of erosion and sedimentation control devices within seven days after the Contractor receives each Form 2118, Field Inspection and Maintenance Report, from the Engineer. Failure of the Contractor to fulfill either of the above requirements places TxDOT in potential non-compliance with permit requirements and may result in withholding estimates or stopping work or both until all environmental permit requirements are fulfilled.

Furnish one SW3P permit posting sign and sign support as detailed in the plans. Install this sign in a location selected by the Engineer. The sign and support should be removed upon completion of the project and is the property of the Contractor. The purchase of the sign and support, installation, relocation(s) if determined necessary by the Engineer and removal at project end shall be subsidiary to Item 506.

ITEM 508: CONSTRUCTING DETOURS

Any widening that is not protected by a positive barrier and any drop-offs greater than 2 inches, must be sloped at no steeper than a 3:1 slope at the end of each work day.

ITEM 512: PORTABLE CONCRETE TRAFFIC BARRIER

The portable concrete traffic barrier will be furnished by the State. These units are at the maintenance stockpile yard located on IH 35 near milepost 284. Upon completion of the project, these units will be delivered and stockpiled at the I-35 Temple Maintenance yard and other locations within 60 miles of the project as directed by the Engineer. The Contractor will furnish equipment necessary to load and unload the units at the stockpile locations.

Do not cast new low profile concrete traffic barrier until directed by the Engineer.

Provide the rebar cages for connecting the portable concrete traffic barrier.

All hardware shall become the property of the State and returned to the Texas Department of Transportation Maintenance yard at the I-35 Temple Maintenance yard and other locations within 20 miles of the project as directed by the Engineer. Place hardware in wire basket-type containers as approved by the Engineer to allow drainage.

Concrete traffic barrier shall be returned in the same condition as when received.

Portable concrete traffic barrier that is determined unusable by the Engineer shall become property of Contractor and shall not be returned to TxDOT stockpile location.

ITEM 514: PERMANENT CONCRETE TRAFFIC BARRIER

Do not use cast iron junction boxes in concrete traffic barriers and single slope traffic barriers. Use polymer concrete junction boxes instead of the cast iron junction boxes shown on Standard sheets CTBI (3), CTBI (4), and SSCB (4). Mount the junction boxes flush (+0, -½) with concrete surface of concrete barrier at a uniform, consistent height measured from top of finish pavement as approved by the Engineer.

Use materials from prequalified producers as shown on the Texas Department of Transportation (TxDOT) *Material Producer List*. Use the following website to view this list:

http://www.txdot.gov/txdot_library/publications/producer_list.htm

The polymer concrete barrier box will not be paid separately, but will be considered subsidiary to Item 618, "Conduit."

White hydraulic cement will be required for permanent single slope barrier, if opaque sealer finish is not selected as the final appearance finish option as per Item 427.

ITEM 528: COLORED TEXTURED CONCRETE AND LANDSCAPE PAVERS

The concrete (riprap) placed under the SH 81, IH 35 southbound frontage road, CR 3102 and FM 3267 bridge abutments will be colored textured using the "Random Cobblestone" pattern from the Stampcrete® International Ltd. (www.stampcrete.com) or approved equal. The color shall consist of a base coat of "Autumn Beige" with a release color of "Charcoal" as manufactured by LM Scofield (800) 800-9900, or approved equal.

The colored textured concrete at the four bridges listed above shall also meet the requirements of the bridge riprap RR9 as shown on the Standard "CRR", including toewalls. These requirements shall be subsidiary to Item 528.

The Contractor shall pour and finish a 5′ x 5′ sample panel of the "Random Cobblestone" pattern with the specified color(s). This sample panel shall not be paid directly, but shall be considered subsidiary to the above Item 528.

The concrete shall be Class "A" with a maximum Grade 8 aggregate.

ITEM 529: CONCRETE CURB, GUTTER, AND COMBINED CURB AND GUTTER

Attach machine-laid curb to pavement with a two compound epoxy adhesive. Epoxy shall be applied to that area of pavement under the machine-laid curb and must be a minimum of 6 inches in width and 0.2 inches (20 mils) thick. The epoxy shall be applied uniformly by some method approved by the Engineer.

ITEM 540: METAL BEAM GUARD FENCE

In the event a guard post falls on top of an inlet, cut the post to the proper length and bolt it to the inlet top as shown on the plans.

Steel posts may be driven with approval from the Engineer.

The blockouts used on the metal beam guard fence will be made of a composite material from a source on the Department approved list of suppliers. The use of wooden blockouts will not be allowed.

ITEM 542: REMOVING METAL BEAM GUARD FENCE

ITEM 544: GUARDRAIL END TREATMENTS

W-Beam elements deemed salvageable by the Engineer will remain the property of the State and shall be returned to the TxDOT Maintenance TxDOT's Maintenance yard on LP 121 in Belton. All other guard fence, and SGTs deemed non-salvageable will become the property of the Contractor.

ITEM 544: GUARDRAIL END TREATMENTS

The blockouts used on the Single Guardrail Terminals will be made of a composite material from a source on the Department approved list of suppliers. The use of wooden blockouts will not be allowed.

ITEM 545: CRASH CUSHION ATTENUATORS

The Reusable Energy Absorbing Crash Terminals (REACT 350) will be furnished by the State. These units are near signpost 284 on IH 35. Upon completion of the project, these units will be delivered and stockpiled at the above named locations as directed by the Engineer. The Contractor will furnish equipment necessary to load and unload the units at the stockpile locations.

The Contractor shall furnish all anchoring hardware.

REACT 350 will become the property of the State and will be stockpiled at the I-35 Temple Maintenance yard and other locations within 20 miles of the project, as directed by the Engineer. Hardware will be placed in crates. Hardware for each REACT 350 will be crated separately.

REACTs will be removed in such a manner that they will not be damaged.

Object markers (OM-3L and OM-3R) as shown on the Standard "BC(7)-07" and "D&OM(VIA)-04" will be furnished by the Contractor and shall be subsidiary to this Item.

Any crash cushion attenuators that are determined to be damaged and unusable by the Engineer shall become property of the Contractor and shall not be returned to TxDOT stockpile location.

Supply and construct REACT 350 for a design speed of 70 mph.

ITEM 552: WIRE FENCE

Location of wire fence to be determined by the Engineer.

ITEM 556: PIPE UNDERDRAINS

Final location of underdrains will be determined by the Engineer.

ITEM 560: MAILBOX ASSEMBLIES

Mailboxes will be kept in a position accessible to the carrier's vehicle along the travelway, except when performance of grading operations necessitates the moving of mailboxes. When grading operations necessitate the moving of mailboxes, the Contractor shall place them at a nearby location which will be accessible to the carrier's vehicle. Mailboxes will be returned to a position accessible to the carrier's vehicle along the travelway when grading operations are not in progress. This work will not be paid directly, but will be subsidiary to Item 560.

ITEM 585: RIDE QUALITY FOR PAVEMENT SURFACES

The ride quality for the pavement surface shall be Surface Test Type B along the finished riding surface of all travel lanes as defined below:

Schedule 1 will be used for flexible pavement surfaces (mainlanes and frontage roads). *Schedule 2* will be used for concrete pavement surfaces.

All other roads shall be Surface Test Type A.

The Contractor shall take care to ensure satisfactory profile results in the intermediate paving layers to eliminate corrective action for excessive deviations in the final surface layers.

Milling will not be allowed as a corrective action for excessive deviations in the surface layer of hot-mix.

ITEM 610: ROADWAY ILLUMINATION ASSEMBLIES

The Contractor's attention is called to the fact that conduit for illumination or other purposes may be required in the construction of the bridge slabs, columns, caps, or other parts of the bridge structure(s). Refer to the Bridge and Illumination layouts for details.

Fabricate steel roadway illumination poles in accordance with TxDOT Standards RIP-07 (Roadway Illumination Poles-2007). Poles fabricated according to RIP-07 require no shop drawings.

Alternate designs to RIP-07 or the use of aluminum to fabricate poles will require the submission of shop drawings electronically.

For instructions on submitting shop drawings electronically go to:

ftp://ftp.dot.state.tx.us/pub/txdot-info/library/pubs/bus/bridge/e_submit_guide.pdf

File is titled: "Guide to Electronic Shop Drawing Submittal."

All roadway illumination assemblies shall be from pre-qualified *Material Producer List*- "Roadway Illumination and Electrical Supplies" located at link:

http://www.dot.state.tx.us/txdot_library/publications/producer_list.htm

ITEM 613: HIGH MAST ILLUMINATION POLES

Construct 80 mph high mast poles of heights 100-ft, 125-ft, and 150-ft according to HMIP-98 Standard sheets. Ground sleeves are required for these poles. Elimination of the ground sleeve will not be allowed.

ITEM 618: CONDUIT

The locations of conduit as shown are for diagrammatic purposes, only, and may be varied to meet local conditions, subject to approval.

A system of seven (7) ½-inch HDPE conduits to serve as fiber backbone as noted on the plans. Refer to TxDOT Waco District Standard, "ITS-MDD" for details. The ½-inch HDPE conduit system to have a built-in 20 AWG insulated copper wire for fiber tracing.

When backfilling bore pits, ensure that the conduit does not become damaged during installation or due to any settling of the backfill material. Compact select backfill in three equal lifts to the bottom of the conduit or if sand is used, place to a point 2 inches above the conduit. Backfill

density shall be equal to the existing soil. Be careful to prevent any material from entering the conduit.

Backfill all open trenches before the end of the workday and do not leave any trench open overnight.

Casing will be incidental to the conduit, if it is required for placing a bored conduit.

Remove all abandoned conductor and conduit to 1-foot below ground level. This work will not be paid directly, but will be subsidiary to the pertinent Items.

Conduit construction underneath freeway on ramps and exit ramps is to coincide with ramp construction. Refer to TCP phasing for appropriate time to install conduit underneath ramps. Conduit to be trenched prior to ramp construction and be placed a minimum 36″ below grade.

ITEM 620: ELECTRIAL CONDUCTORS

Place the loop detector in a separate conduit from the electrical conductors with 120 or 240 volts.

Any damage to any wire or any cable is cause for immediate rejection of the entire cable being tested. Remove and replace the entire cable at the Contractor's expense.

Do not use non-certified persons to perform electrical work. See Item 7.15 "Electrical Requirements" for additional details.

For both transformer and shoe-base type illumination poles, provide double-pole breakaway fuse holder from manufacturers pre-qualified by the Traffic Operations Division. See:

http://www.txdot.gov/txdot_library/publications/producer_list.htm

for list of pre-qualified manufacturers. Category is "Roadway Illumination and Electrical Supplies." Fuse holder is shown on list under Items 610 & 620.

Provide 10 amp time delay fuses.

ITEMS 624: GROUND BOXES

Ground box locations shown on the plans are approximate locations. Actual locations are as directed.

Place concrete aprons around all ground boxes installed in sodded areas or as directed/approved by the Engineer.

Complete construction of ground boxes within 48 hours after beginning construction for that ground box.

Type J ground boxes will be installed along the fiber backbone as shown in the plans. Refer to TxDOT Standard ED(11) – 03. Provide cable rack within ground box for securing cable slack or splice enclosure.

ITEM 628: ELECTRICAL SERVICES

Contact the Electric Utility Company to make all necessary arrangements to provide electrical service shown on the plans in accordance with Article 628.5 and the Electrical Details, except that TxDOT will make application to the Electric Utility Company for service (See Note below).

Note:
Before fabricating the electrical service, contact the Waco District Traffic Signal Service Supervisor (Phone (254) 867-2807), to make application (billing arrangements) for service with the Electric Utility Company.

Furnish and install a lock on all electrical services. The lock is to be a Master Lock® number 175LH (four-digit combination).

ITEM 636: ALUMINUM SIGNS

Verify all dimensions at the actual proposed sign location in order to maintain dimensions as shown on the Sign Mounting Details.

The sign locations as shown on the plans are for diagrammatic purposes and show the approximate location of the signs. Stake the location of the new signs to be approved.

For freeway sections, keep the advance guide sign or the exit direction sign for an exit in place at all times, unless written approval is given. Replace any signs that have been removed before the end of the work day, unless written approval is given.

ITEM 644: SMALL ROADSIDE SIGN SUPPORTS AND ASSEMBLIES

Measure all dimensions in the field at the actual locations.

Place signs in accordance with lateral and vertical clearances as shown in Sign Mounting Details for Small Roadside Signs and in the *Sign Crew Field Book.*

Sign placement heights are a minimum of seven (7) feet and a maximum of seven feet six inches (7ft.-6in.) to the bottom of the sign or plaque. Mounting heights are measured as follows:

1. When the base of the sign is below the edge of the travel lane, the sign height is measured from the edge of the travel lane to the bottom of the sign.
2. When the base of the sign is above the edge of the travel lane, the sign height is measured from natural ground to the bottom of the sign.

3. When a supplemental plaque or secondary sign is used, the sign height is measured to the bottom of the supplemental plaque or secondary sign.
4. When a sign has two or more posts, all posts must be a minimum height above natural ground to the bottom of the sign. The sign also must be a minimum height above the edge of the travel lane.

Leave the existing sign assemblies in place until the proposed foundation, post, and sign are in installed, and then remove the old sign assemblies.

Do not leave any sign foundation holes open overnight. Ensure all holes drilled are at least the minimum required depth with no loose material remaining in the hole.

Stake proposed sign locations and receive approval before installation of sign foundations. Determine each post length after the stub has been placed.

For sign assemblies using the "Texas Universal Triangular Slipbase System Mounts" furnish and install a #4 rebar at least 7 inches long through the 3/4-inch diameter hole in the stub to prevent the stub from rotating in the foundation as detailed on the Sign Mounting Details for Small Roadside Signs.

Furnish and install a 5/16-inch x 1 1/2-inch double roll pin between the slip base casting and the sign support post to prevent the sign assembly from rotating on the stub as detailed on the Sign Mounting Details for Small Roadside Signs.

Concrete for sign foundations is designated as "Miscellaneous Concrete." It will be accepted based on a minimum 7-day flexural strength of 280 PSI. The slump is to be no greater than 4 inches.

Use trowel to finish all foundations for a neat appearance. Remove all excess material.

Expanded foam foundations are not permitted.

Tighten the slip base and the locking collar as shown on standard Sign Mounting Details for Small Signs. Do not tighten bolts greater than 80 foot-pounds, except to clean threads. Over-torque bolts to clean the threads of any galvanization that might cause an incorrect torque reading. Then loosen the nuts and tighten to the required torque of 80 foot-pounds. Tighten bolts incrementally in a sequential manner such that the load is applied uniformly to the locking collar.

For splices in small signs, use bolts as shown on details A and B on the Sign Mounting Details for Small Roadside Signs.

Cut the bottom of all posts level.

For sign types which design details are not shown on these plans, fabricate according to the *Standard Highway Sign Designs for Texas.*

Removed material that is deemed salvageable (signs and posts) will be the property of TxDOT. Deliver salvageable material to the TxDOT Maintenance Office. Remove unsalvageable material.

Existing signs remain in place until the proposed signpost assembly is completed and ready for sign installation.

Maintain existing roadside signs within this project's limits during this Contract. In order to accommodate the grading or other operations, relocate these signs and assemblies onto temporary supports in accordance with the TMUTCD and as directed by the Engineer. This work will be paid as "Relocate Small Roadside Sign Supports and Assemblies." Moving the temporary supports for accommodating work and relocating for subsequent phases will not be paid directly. The existing sign assemblies requiring relocation to a temporary support must be approved by the Engineer.

ITEM 650: OVERHEAD SIGN SUPPORTS

Lengths of trusses, tower heights, and posts shown in the summaries are for bidding purposes, only. Verify these dimensions upon substantial completion of the subgrade section at the location shown on the plans or as relocated by the Engineer. Notify the Engineer, prior to shop drawing production, concerning any discrepancies found, which may reduce established ground clearance requirements.

Furnish shop drawings for this Item indicating the weight of structure and all equipment supported by the structure to verify the design of the structure. Provide any new sign fabrication or existing sign verification drawings and obtain approval of these prior to providing sign bridge shop drawings for approval. Provide shop drawings to the Design Engineer point of contact address indicated under Item 6 of the General Notes. Provide information for alternate designs conforming to the requirements of Item 5, "Control of the Work."

ITEM 658: DELINEATOR AND OBJECT MARKER ASSEMBLIES

The delineator assembly Type C, Class A (D-SW) and (D-SY) are to be single delineators (Class I) attached to a flat, plastic bracket to facilitate the mounting of the delineator on top of the bridge rail at the locations shown on the plans. Submit a sample for approval before ordering materials.

For all delineators and object markers, furnish a tubular post minimum of 2 inches diameter with a flat surface at least 3 inches wide and 15 inches long for delineator mounting meeting the requirements of DMS-4400. Use the Wedge Anchor Plastic System for ground-mounted delineators set in concrete as shown on the D&OM(1)-09 Standard. Submit one assembly or a material cut sheet to the Engineer for approval prior to installation.

ITEM 662: WORK ZONE PAVEMENT MARKINGS

Lane lines for transitions and detours will consist of raised pavement markers as shown for solid lines on the Barricade and Construction Standards Work Zone Pavement Marking Details.

Paint and beads may be used for non-removable pavement markings.

ITEM 666: REFLECTORIZED PAVEMENT MARKINGS

Apply beads using a single drop application process. Use an application rate of 12 pounds per 100 square feet of thermoplastic pavement marking material.

The Engineer will verify the beginning and ending points of NO PASS ZONE(s).

Before the application of pavement markings, sufficiently clean pavement surfaces to remove all forms of contamination and loose materials, in accordance with Item 678, "Pavement Surface Preparation for Markings." This work will not be paid directly, but will be subsidiary to Item 666 "Reflectorized Pavement Markings."

Make all stop lines twenty-four (24) inches wide.

Pay Item for REFL PAV MRK TY I (W) (8″) (BRK) will be used for intersection turning lane channelizing markings as shown in the 2003 *Texas Manual on Uniform Traffic Control Devices*, Section 3B.08, page 3B-24, figure 3B-11c.

Remove markings at own expense that are not in alignment or sequence, as shown on the Standard sheets or as stated in the specifications, or do not meet the specification and/or approval of the Project Manager. Removal shall be in accordance with Item 677, "Eliminating Existing Pavement Markings and Markers," except for measurement and payment.

ITEM 668: PREFABRICATED PAVEMENT MARKINGS

Use Type C prefabricated pavement markings (TxDOT Spec DMS-8240) for all Word, Arrow, and RR Crossing markings.

ITEM 672: RAISED PAVEMENT MARKINGS

Place Type II-C-R and Type I-C markers for lane lines on 80 feet centers, regardless of the conditions listed on the Pavement Markings Standard Details.

Existing raised pavement markers to be replaced will be removed at the same time that the new markers are placed (i.e. remove and replace in one operation). Existing raised pavement markers replaced by new markers will be removed in accordance with Item 677, "Eliminating Existing Pavement Markings, and Markers." Immediately fill the damaged area in the pavement due to the removal of existing markers with an approved bituminous material. This removal and

backfill work will not be paid directly, but will be subsidiary to Item 672, "Raised Pavement Markers."

Before the application of pavement markers, sufficiently clean pavement surfaces to remove all forms of contamination and loose materials, in accordance with Item 678, "Pavement Surface Preparation for Markings." This work will not be paid directly, but will be subsidiary to Item 672, "Raised Pavement Markers."

Remove at own expense markings placed that are not in alignment or sequence, as shown on the Standard sheets or as stated in the specifications, or do not meet the specification and/or approval of the Project Manager. Removal shall be in accordance with Item 677, "Eliminating Existing Pavement Markings and Markers," except for measurement and payment.

Mount all raised pavement markers placed on concrete surfaces using an epoxy adhesive, in accordance with Article 672.3.

ITEM 677: ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS

Pay item for eliminating existing raised pavement markers is for operations of removal, only, with no marker replacement.

ITEM 680: INSTALLATION OF HIGHWAY TRAFFIC SIGNALS

References to manufacturer's trade name or catalog numbers are for the purpose of identification, only, and like materials of other manufacturers can be furnished, provided they are of equal quality, comply with specifications for this project, and are approved.

Provide all materials, labor and incidentals required to provide for traffic access to the highway and for all-weather ingress and egress to public and private property in accordance with Article 7.7 of the Standard Specifications will be considered as incidental to the various bid items. Restore the access roadways to original condition when construction is completed.

Do not park personal vehicles within the right-of-way at anytime, including any section closed to public traffic, unless the vehicle is being utilized for construction procedures. Employees may park on the right-of-way at sites where there is the construction office, equipment, and materials storage yard.

Protect all adjoining pavement sections during all phases of construction and any damages incurred due to operations will be repaired and/or replaced at own expense.

Do not begin work on the roadway until 30 minutes after sunrise and all machines will be off the road by 30 minutes before sunset.

Prior to beginning any excavation work in the area of existing utilities, contact the utility companies for exact locations to prevent any damage or interference with present facilities. Notify the Texas ONE CALL system at the following toll-free number: (1-800-245-4545). Local water and wastewater utility companies may not be included in the Texas ONE CALL system and therefore shall be notified individually. This action will in no way be interpreted as relieving responsibilities, under the terms of the Contract and as set out in the plans and specifications. Repair any damage caused by operations, at own expense and restore facilities to service in a timely manner.

Accomplish the erection of poles and luminaires located near any overhead electrical lines using established industry and utility safety practices. Consult with the appropriate utility company before beginning such work.

There are existing traffic signals presently in operation within the project limits. Keep the existing signals in operation until the proposed signals are in operation, or as directed. Remove the old signals and equipment.

Maintain the integrity and function of each existing signalized intersection. Once the integrity or function of the signal is altered, continue work at that location without delay or interruption until restoring to the original or final operational design.

Furnish overhead extruded aluminum (Type O), with the background and copy fabricated with prismatic reflective sheeting for the street name signs mounted on traffic signal poles.

Furnish and install aluminum signs and brackets to be mounted on traffic signal pole mast arm assemblies with "Option C" bracket assemblies for signs as described on the Traffic Signal Support Structures Details. Mount signs horizontal as shown on the plans. This work will not be paid directly but will be subsidiary to Item 680, "Installation of Highway Traffic Signals."

TxDOT will furnish traffic signal controller assembles with loop detector amplifiers, flashers, and cabinets. Pick up these units at the District Traffic Shop located at 100 South Loop Drive in Waco. Notify the District Traffic Signal Shop seven (7) days prior to picking up the units.

All signal control equipment furnished will be shop tested. Certify in writing that the equipment is working properly in all modes before removing the equipment from the shop. Investigate all reported malfunctions in the traffic signal system before final acceptance. If the malfunction is due to State-furnished equipment, return this equipment to the TxDOT Traffic Signal Shop for repair or replacement. If the repair requires that the signal flash for more than six (6) hours, install an emergency replacement controller furnished by the State. Install this repaired or replaced equipment and place the traffic signal system back into normal operation. No extra compensation will be allowed for this work.

Clean-up and remove from the work area all loose material resulting from operations each day before work is suspended for the day.

ITEM 682: VEHICLE AND PEDESTRAIN SIGNAL HEADS

Provide and install light emitting diode (LED) traffic signal lamp units in all vehicle and pedestrian signal head sections.

Provide new signal head housings with black aluminum housings and back plates.

Cover all signal heads installed, but not in operation, in an approved manner from the time of installation until the signal is placed in operation. This will not be paid directly, but will be subsidiary to Item 682, "Vehicle and Pedestrian Signal Heads."

Provide and install standard detachable tunnel visors on all signal heads. Provide and install all necessary mounting hardware to insure proper mounting of all signal heads. The mounting hardware and attachments will be new (no reuse of old existing attachment hardware) and the same color as the signal head housings. Use signal heads made of aluminum with 12-inch LED indications and aluminum back plates.

Install signal heads mounted on mast arms, except for heads mounted on end of mast arm, with the "Option A" bracket assembly, or "Option C" Astro-Brac® cable-type clamp, as described on the Traffic Signal Support Structures Details, or as approved. Mount signal heads mounted on end of arm with a 90-degree mast arm elbow fitting as shown on the structure assembly on the Traffic Signal Support Structures Details.

Use standard 1 1/2-inch diameter steel pipe side pole mount for pedestrian signal heads.

Ensure that each signal head has a minimum vertical clearance of 18.5 feet and a maximum vertical clearance of 19 feet between the bottom edge of the signal head and the surface of the roadway.

Provide aluminum pedestrian signal heads. Pedestrian indications will be LED signal sections with symbolized messages as shown on the plans and in accordance with the 2003 *Texas Manual on Uniform Traffic Control Devices*. Symbols will be a minimum of 9 inches in height.

Mount pedestrian signals with all wiring enclosed within the signal pole arm mounting hardware, in accordance with Articles 688.3 and 688.4.

Ensure pedestrian signal heads are mounted with the bottom of the housing not less than 7 feet or more than 9 feet above the sidewalk.

ITEM 686: TRAFFIC SIGNAL POLE ASSEMBLIES (STEEL)

Payment for traffic signal pole foundations is per Item 416, "Drill Shaft Foundations." Furnish and use a circular steel anchor bolt templates as shown on the Traffic Signal Pole Foundation Details for all signal pole foundations on this project.

Attach dampening devices as shown on the plans to mast arms 28 feet in length and longer. Make attachment using Astro Sign-Brac® type mounts "Option C" on the Traffic Signal Support Structures Details. Dampening will not be paid directly, but will be considered subsidiary to Item 686, "Traffic Signal Pole Assemblies (Steel)."

Conductors and/or cables in mast arm poles (from base of pole to each signal head) and inside strain poles will not be paid directly, but will be subsidiary to Item 686, "Traffic Signal Pole Assemblies (Steel)."

No exposed signal cable on the mast arm assemblies will be allowed. Install the signal cable so it will exit the mast arm directly behind each signal head as directed. This will require drilling holes in the mast at the exact location for each signal head. Drip loops are not allowed. Provide either "Option A" or "Option C" signal head bracket assemblies as described on the Traffic Signal Support Structures Details.

ITEM 688: PEDESTRIAN DETECTORS AND VEHICLE LOOP DETECTORS

On this project, use loop detector wire encased in black flexible polyethylene tubing in accordance with Article 688.2.

Ground box installations for curbed or non-curbed sections (see Loop Detector Installation Details), the saw cut, drilled hole, sealing of cuts and holes, and 1-inch diameter PVC conduit will not be paid directly, but will be subsidiary to Item 688, "Traffic Signal Detectors."

Vehicle detector loops will be measured by the linear foot of saw cut containing loop wire for payment according to Article 688.4 and not by the linear foot of loop wire used to make the detector loop.

Saw cuts, the installation of loop detectors, or any other operations requiring a lane closure will be confined to off peak periods between 9:00 AM until 11:00 AM and 1:00 PM until 3:00 PM where traffic conditions warrant.

Pedestrian push buttons are required to be a minimum of 2 inches in the smallest dimension and be mounted a minimum height of 38 to a maximum of 42 inches above the sidewalk or landing. The Engineer will approve the location of each pedestrian push button.

Install pedestrian push button signs (R10-4B) directly above the push buttons.

Installation of pedestrian push buttons signs, electrical connections, and all mounting hardware shall not be paid directly, but considered subsidiary to Item 688, "Traffic Signal Detectors."

ITEM 730: ROADSIDE MOWING

Throughout the course of the project, when in the opinion of the Engineer, tall grass and weeds affect the safety of the public by restricting visibility, interfere with normal traffic flow, or appear unsightly, the Contractor shall be required to mow same. Final cleanup will include mowing of grass and weeds. This work will be paid by the acre.

Mowing cycles shall coincide with adjoining construction projects and adjoining segments maintained by contracted maintenance. The Contractor shall plan and schedule to perform the full-width mowing cycle work under this Item as follows:

Rural Areas

- 2 times per year.
- Mid May to mid June and late October to late November.

Urban Areas

- 3 times per year.
- Mid May to mid June, August and late October to late November.

The Engineer shall approve the actual beginning time of work for each cycle of work performed. The Contractor shall provide the Engineer two weeks advance notice before beginning actual work for each cycle.

ITEM 738: CLEANING AND SWEEPING HIGHWAYS

For sweeping operations, a vacuum pickup type broom shall be utilized.

Regular sweeping of dirt or mud from the travel ways due to construction operations will not be paid directly, but will be subsidiary to the various bid items.

ITEM 740: GRAFFITI REMOVAL AND ANTI-GRAFFITI COATING

Anti-graffiti coating shall be applied to all retaining wall faces exposed to the view of roadway traffic excluding coping and railing as directed by the Engineer.

Anti-graffiti coating shall be Type III-Permanent, water-cleanable. The color of coating shall be clear or translucent as approved by the District Landscape Architect.

Anti-Graffiti Coating Type III-Permanent, Water Cleanable:

a) Type III Coatings allow removal of the graffiti with low-pressure water wash.

b) The color must match Federal Standard 595B; color number 35630, unless otherwise shown in the plans. When the plans show another color, the color must match the color Standard supplied by the Engineer. The plans may specify clear or translucent coating as a color.

c) Pressure wash requirements must not exceed 500 psi.

d) Coating must be washable with water at an ambient temperature of 50°F or higher.

e) Coating must allow for a minimum of ten cycles of graffiti removal.

f) Coating must be self-recoatable for the life of the coating.

g) The dry times of a 3-mil wet film of the coating must meet set-to-touch, 4hr. maximum and dry through, 24 hr. maximum when tested at 77°F in accordance with ASTM Standard D1640.

ITEM 5830: VEHICLE REMOVAL

Disabled vehicles interfering with traffic flow shall be removed in accordance with this item. Direct instruction from law enforcement personnel for vehicle removal shall take precedence over this provision.

ITEM 6010 COMMUNICATION CABLE

Splices of communication cable are not allowed on this project. Test all pairs to ensure they are good before installation.

Provide cable of size and gauge as shown on plans.

Ground the communication cable shield for the DMS in the DMS equipment cabinet.

This Item includes the installation of cable conductors from a third-party communications provider demark location to a proposed DMS cabinet as shown on the plans. These cable conductors provide the physical connection between the proposed DMS cabinet and a third party communications provider. This communications link will provide dial-up access from the TxDOT Waco District TMC to each DMS. Terminate the proposed cable conductors within the DMS cabinet to the proposed dial-up modem and leave the communications cable unterminated at the third-party demark location. The third-party communications provider will make the physical connections to their demark. Include the cost of terminating cable in the price bid for this Item.

ITEM 6011: TESTING, TRAINING, DOCUMENTATION, FINAL ACCEPTANCE AND WARRANTY

Prior to permanent installation, field test all ITS Equipment including, but not limited to, Dynamic Message Sign System, all communications equipment, and fiber optic cable. Conduct tests for each type of ITS equipment, as directed by the Engineer, to determine compatibility of

the equipment with the existing Waco District TMC software and hardware. Prior to field installation, test one complete unit with all components to ensure that it is fully compatible with the existing systems. Test all aspects of the system to show full functionality of the equipment and to show full compatibility with the existing software and hardware. Failure to perform to the requirements of any test will be considered as a defect, and the equipment will be subject to rejection by the Engineer. Rejected equipment may be offered again for retest provided all noncompliance's have been corrected and retested by the Contractor and evidence thereof submitted to the Engineer. Testing is considered subsidiary to the particular bid item, with no direct payment made.

Submit the Final Acceptance Plan in Microsoft WORD® format.

The Contractor may submit items sooner, if needed for construction, but no later than the dates stated above.

Provide, to the Engineer, as-built plans in MicroStation format (DGN files) of the ITS portion of this project when the project is complete. TxDOT will provide the DGN files of the ITS plan sheets. Update these files with all ITS items as actually constructed in the field. Cost to provide as-built plans as described above is subsidiary to the various bid items with no direct payment.

Documentation
Compile and furnish final "as built" working drawings, including an installation summary, for each field installation. The installation summary shall include the equipment complement and cable lists for each location. Identify and label all termination and splice points as described in the plans and specifications. Furnish installation summary including all equipment settings to facilitate operation, maintenance, and modification. Reproduce approved submittal working drawings for inclusion in final "as built" working drawings. Provide all "as built" working drawings prior to any final acceptance or final acceptance test. Consider the cost of providing "as built" working drawings in accordance with Standard Specification Item 5.3.

Provide "as built" working drawings including XY coordinates based on Texas State Plane NAD 83. Provide data to the Engineer in a spreadsheet compatible with the version of Microsoft Office in use by the Engineer. Furnish field surveying and calculations performed under the supervision of and sealed by a Land Surveyor registered in the State of Texas and pre-certified under Categories 15.2.1 and 15.4.1 for selection for the TxDOT Professional Services Contracts.

ITEM 6014: FIBER OPTIC CABLE

The 72 count single mode fiber will be installed on this project for future use by TxDOT. At each Type J ground box, coil 30 feet of fiber optic cable to serve as slack for future use. At each end of the conduit backbone, the fiber optic cable will remain unterminated and a protective cap installed.

Fiber optic cable will be installed via air-assisted through one of the ½″ HDPE conduits within the conduit system. Due to the length of fiber optic cable needed for the project, splices will be required, and must occur at a Type J ground box. Contractor to minimize the number of splices in the system. Work associated with splicing ends of the fiber optic cable will be subsidiary to the fiber optic cable.

Prior to installation of the fiber optic cable, the fiber must be tested on the reel/spool and meet the testing requirements set forth in this specification. After installation, a final test of the fiber optic cable, from beginning to end, must be performed and meet the requirements set forth in this Specification and approved by TxDOT.

ITEM 6473: MULTIPOLYMER PAVEMENT MARKINGS

Apply beads using a single drop application process. Use an application rate of 12 pounds per 100 square feet of thermoplastic pavement marking material.

Before the application of pavement markings, sufficiently clean pavement surfaces to remove all forms of contamination and loose materials, in accordance with Item 678, "Pavement Surface Preparation for Markings." This work will not be paid directly, but will be subsidiary to Item 6473 "Multipolymer Pavement Markings."

Remove markings at own expense that are not in alignment or sequence, as shown on the Standard sheets or as stated in the specifications, or do not meet the specification and/or approval of the Project Manager. Removal shall be in accordance with Item 677, "Eliminating Existing Pavement Markings and Markers," except for measurement and payment.

ITEM 6834: PORTABLE CHANGEABLE MESSAGE SIGN

This project shall require a "Full Matrix" type portable changeable message signs. Provide cellular telephone connections to communicate with PCMS units remotely.

Furnish 8 portable changeable message signs for the duration of the project. The portable changeable message sign(s) shall be used for all lane closures and freeway closures as shown on the Traffic Control Plan Standard sheets and to display travel times along the corridor. These 8 message boards will paid by the each. If more than 8 message boards are needed at one time, payment for additional message boards will be by the day.

Supply portable changeable message sign(s) in accordance with the Traffic Control Plan Standard sheets and Article 6f.55 of the *Texas Manual on Uniform Traffic Control Devices*, Part VI.

ITEM 8251: REFLECTORIZED PAVEMENT MARKINGS

Apply beads using a single drop application process. Use an application rate of 12 pounds per 100 square feet of thermoplastic pavement marking material.

The Engineer will verify the beginning and ending points of NO PASS ZONE(s).

Before the application of pavement markings, sufficiently clean pavement surfaces to remove all forms of contamination and loose materials, in accordance with Item 678, "Pavement Surface Preparation for Markings." This work will not be paid directly, but will be subsidiary to Item 8251 "Reflectorized Pavement Markings."

Remove markings at own expense that are not in alignment or sequence, as shown on the Standard sheets or as stated in the specifications, or do not meet the specification and/or approval of the Project Manager. Removal shall be in accordance with Item 677, "Eliminating Existing Pavement Markings and Markers," except for measurement and payment.

ITEM 8502 – INSTALLATION OF DYNAMIC MESSAGE SIGN SYSTEM

State-furnished dynamic message signs (DMS) will be provided to the Contractor on this project. Coordinate with the TxDOT District Office as to the delivery location for the signs. Transport each sign from the designated facility to the project for installation.

Install and make operational, two flashing beacons on each DMS installed on this project. Utilize beacons, which are 12 inches in size and utilize light emitting diode (LED) technology. Configure the beacons to flash simultaneously.

Configure the dynamic message signs (DMS) installed on this project to operate using existing control software currently in use at TxDOT Waco's Traffic Management Center.

Ensure the dynamic message signs (DMS) installed on this project are fully compatible with the existing DMS control system at TxDOT Waco's Traffic Management Center. The existing DMS system utilizes the National Transportation Communications for its Protocol (NTCIP). All DMS submitted for use on this project will be tested for compatibility and full operability with this protocol during the factory demonstration tests. Perform the test using TxDOT-supplied DMS test software. DMS, which do not pass this test or are not compatible in any manner will be allowed one chance to be retested. The retest must occur within one month after the original test. Any DMS, which cannot be retested within one month or which does not pass the second test, will be rejected and cannot be used on the project. No additional time or compensation will be granted for the testing of the DMS equipment.

Upon completion of DMS installation, test the communications link installed between the TMC and DMS field cabinet. Perform the test at all DMS locations on the project.

Supply all test equipment, cabling, and connectors necessary for performing the tests.

All lines of text must energize and de-energize simultaneously.

Install and make fully operational, DMS ground-mounted controller cabinets. Controller and cabinet to be furnished by TxDOT and will be delivered with the DMS sign.

Provide necessary cables from all dynamic message signs (DMS) to DMS controller. These items shall be considered subsidiary to the Item and no direct payment will be made.

Location of sign panels on the overhead structure is approximate.

Verify the sign location in the field prior to erection of the dynamic message signs.

The manufacturer of the DMS must provide to the Department, documentation indicating they have received an ISO-9001 Certification.

The manufacturer is required to submit shop drawings and specifications of the DMS to the Contractor prior to design of the truss connections members. The Contractor is responsible for ensuring the structural design and mounting details for the sign match the specifications of the DMS and no structural members prohibit or impede access to the sign. The Contractor will submit the structural design and mounting details for the sign to the truss to the Engineer for approval prior to fabrication. The design of the connections will be signed and sealed by a Texas registered Professional Engineer.

Material Furnished By the State
Dynamic Message Signs (DMS) will be provided by the State, but installed by the Contractor.

The wage rates listed are those predetermined by the Secretary of Labor and State Statue to be the minimum wages paid. To determine the applicable wage rate zone, a list entitled "TEXAS COUNTIES IDENTIFIED BY WAGE RATE ZONES" is provided in the contract. Any wage rate that is not listed must be submitted to the Engineer for approval. IMPORTANT NOTICE FOR STATE PROJECTS; only the controlling wage rate zone applies to the contract. **Effective 03-12-2010**

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100	Air Tool Operator						16.00	10.06	9.98				9.05	
103	Asphalt Heater Operator		11.27											
106	Asphalt Raker	8.99	9.51	8.49	8.58	9.11	9.96	11.01	9.30	11.13	9.36	9.58	9.53	10.63
109	Asphalt Shoveler			9.35	9.09		10.56	8.80	8.28	9.14			7.33	9.23
112	Batching Plant Weigher							14.15	17.11				11.15	
115	Batterboard Setter													
118	Carpenter	10.39	12.61	10.73	12.59	10.52	12.25	12.80	11.73	12.49	10.71	10.54	10.10	11.70
124	Concrete Finisher (Paving)	10.76	13.26	11.04	12.46	10.32	10.53	12.85	11.70	11.38	12.18	10.65	11.25	11.64
130	Concrete Finisher (Structures)		11.20	10.23	10.40	10.23	10.95	13.27	11.27	10.80	11.16	11.91	10.03	10.23
136	Concrete Rubber			10.00			10.88	10.61	9.49	9.00	10.50	11.75		9.00
139	Electrician		17.00		15.00	17.83	24.11	18.12	17.22	21.79			19.00	
148	Fireman													
150	Flagger	7.84		7.79	7.61		9.49	8.43	8.06	9.42	7.25	8.89	7.29	8.60
151	Form Builder/Setter, Structures		9.26	9.70	9.57	9.73	10.88	11.63	11.21	10.50	11.47	9.90	10.01	10.51
157	Form Liner (Paving & Curb)								8.00	11.75				
160	Form Setter (Paving & Curb)	9.32	9.82	10.50			9.89	11.83	10.63	10.51	9.65		9.43	9.48
172	Laborer (Common)	8.15	8.51	8.10	8.86	8.25	9.34	9.18	8.69	9.15	8.35	8.14	8.25	8.91
175	Laborer (Utility)	9.61	10.46	9.45	11.39	9.72	10.12	10.65	10.57	9.81	9.09	9.55	9.62	9.21
178	Lineperson													
181	Groundperson													
184	Manhole Builder									9.00				
187	Mechanic		16.85	12.22	13.53	12.82	14.74	16.97	14.79	13.72	13.17	12.16	14.05	12.18
193	Oiler						14.71	14.98	12.50	12.12			10.67	
194	Servicer	9.64	8.98	9.49	10.00	10.03	11.41	12.32	11.43	10.96	10.75	9.70	8.22	11.18
196	Painter (Structures)						11.00	13.17		15.54			11.00	
202	Piledriverman								11.00	12.22				
205	Pipelayer			9.05		9.83	10.49	11.04	10.85	9.49	9.00	8.85		9.71
211	Pneumatic Motor Operator													
214	Blaster													
300	Asphalt Distributor Operator	10.28	9.25	10.30	11.74	9.78	12.09	13.99	11.45	10.94	12.42	10.95	10.46	12.57
303	Asphalt Paving Machine Opr.	10.77	11.16	10.42	10.49	11.41	11.82	12.78	11.82	12.01	11.57	10.62	9.38	11.60
305	Broom or Sweeper Operator	8.92	8.57	8.26	8.47		9.74	9.88	9.09	11.19		8.44	8.01	9.32
306	Bulldozer Operator		9.76	10.13	11.97	10.60	11.04	13.22	11.80	11.81	10.90	10.13	10.88	11.69
315	Conc. Pav. Curbing Machine Opr.						14.00	12.00		10.00				
318	Conc. Pav. Finishing Mach. Opr.					11.23	12.00	13.63		13.07				
321	Conc. Pav. Form Grader Opr.													
324	Conc. Pav. Gang Vibrator Opr.													
326	Conc. Pav. Grinder Opr.													
327	Conc. Pav. Joint Machine Opr.													
329	Conc. Pav. Joint Sealer Opr.							12.50		11.00				
330	Conc. Pav. Float Opr.													
333	Conc. Pav. Saw Opr.	12.09			12.13			13.56	12.30	12.75			15.00	
336	Conc. Pav. Spreader							14.50		10.44				
339	Conc. Pav. Sub-Grader Opr.													
340	Reinf. Steel Machine Operator													
341	Slip-Form Machine Operator		13.64				15.17	12.33		11.07				
342	Crane, Clamshell, Backhoe Derrick, Dragline, Shovel	10.95	11.00	11.35	12.14	11.50	13.66	14.12	12.50	12.71	12.55	11.34	10.94	12.00
351	Crusher or Screen Plant Opr.	9.28								11.29			9.00	
354	Elevating Grader													
357	Form Loader													
360	Foundation Drill Opr.Crawler Mt.							13.67		15.00				
363	Foundation Drill Opr.Truck Mt.			13.78			15.00	16.30	16.00	12.73	15.32		18.00	14.58
369	Front End Loader	9.68	10.52	9.44	10.78	9.83	11.36	12.62	10.83	10.65	10.05	9.64	10.04	10.62
375	Hoist (Double Drum & Less)													
378	Hoist (Over 2 Drums)													
380	Milling Machine Opr.(Fine Grd)							11.83	10.25	13.17			12.20	
381	Mixer Operator						10.83	11.58	10.09	10.33				
387	Mixer Opr.(Concrete Paving)						15.25							
390	Motor Grader Opr. Fine Grade	14.67	13.50	12.86	13.35	14.18	15.26	15.20	14.29	11.67	13.78	13.53	13.24	15.15
393	Motor Grader Operator, Rough	18.00	11.75	12.45	13.34	15.00	12.96	14.50	13.11	13.13	15.00	12.72	14.36	12.95

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396	Pavement Marking Machine	9.11			10.56		11.52	10.04	11.17	8.18		11.48	9.26	13.32
397	Planer Operator	17.50	13.36				17.45						17.50	
399	Pump Crete													
402	Roller Opr.,Stl.Wheel(Plant Mix Pav)	8.92	7.50	8.77	9.75	9.35	10.24	11.28	9.70	11.07	9.49	9.27	9.81	10.59
405	Roller Opr.,Stl.Wheel(Flat Whl/Tamp)	8.76	8.06	8.03	9.23	8.49	9.60	10.92	8.75	10.43	8.57	8.57	8.66	9.30

	Roller Opr.,Pneumatic (Self-													
408	Propell)	8.14	7.67	7.88	8.39	8.55	9.34	11.07	8.87	9.91	8.57	8.44	7.55	8.90
411	Scraper Operator	9.76	8.50	8.98	9.50	8.68	9.93	11.42	10.29	9.92	9.67	8.88	7.78	9.85
417	Self-Propelled Hammer Opr.													
419	Side Boom													
422	Tractor Operator(Crawler Type)	10.87					11.10	12.60	12.00	13.00				
428	Tractor Operator (Pneumatic)		12.00	9.51	11.00			12.91	11.57	10.07		10.02	8.58	
434	Traveling Mixer Operator	10.33	12.00	9.40	10.05		10.04	12.03	10.07	11.00		9.93	9.71	12.67
437	Trenching Machine, Light													
440	Trenching Machine, Heavy						14.22							
442	Tunneling Machine Operator													
443														
	Wagon Drill, Boring Machine,													
	Post Hole Driller Operator	10.25					14.65	14.00					8.86	
500	Reinforcing Steel Setter (Pav.)						15.50	14.86	13.48	15.14			9.50	
503	Reinforcing Steel Setter (Str.)						14.00	16.29	15.52	13.87			11.85	
	Reinforcing Steel Setter (Str.&P	10.94		10.67	12.52	10.29								
509	Structural Steel Worker						13.41			12.13	14.00			
513	Sign Erector													
515	Spreader Box Operator				13.12		10.39	10.92	10.39	11.12		11.01	10.07	13.00
518	Swamper													
520	Work Zone Barricade Servicer	9.50	8.28	8.84	7.85		11.15	10.09	9.52	9.94	8.97	9.32	8.64	9.63
522	Sign Installer (PGM)						14.85			8.54				
600	Truck Driver Single Axle, Light	10.03	8.08	9.40	9.62	9.58	9.98	10.91	10.24	10.07	9.00	9.79	7.55	10.85
603	Truck Driver Single Axle, Heavy	9.16	8.50	9.95	13.13	9.60	11.88	11.47	10.56	10.65	11.39	10.67	11.00	10.87
606	Truck Driver(Tandem Axle/ Sem	9.29	8.66	8.84	10.51	9.50	10.95	11.75	10.33	10.25	9.39	9.14	9.02	10.05
609	Truck Driver Lowboy-Float		12.67	11.81	10.50		15.30	14.93	11.64	13.16	14.15	12.65	11.42	13.70
612	Truck Driver Transit-Mix							12.08						
615	Truck Driver Winch													
700	Vibrator Operator (Hand Type)													
703	Weigher (Truck Scales)													
706	Welder		15.25	11.74		12.08	14.26	13.57			18.00		9.75	
707	Slurry Seal Machine Operator													
708	Micro-Surfacing Machine Opr.													

Any worker employed on this project shall be paid at the rate of one and one half (1-1/2) times the regular rate for every hour worked in excess of forty (40) hour per week

Apprentice Schedule/Period and Rate*

Power equipment Operators:	1000 Hrs	6th	7th	8th
Heavy Duty Mechanic	" "	85	90	95
Boom Equipment	" "	95		
Motor Grader	" "	95		
Tractor & Scrapers, Pneumatic and Crawler	" "	95		

*The apprenetice rate is by percentage of the journeyman's rate; no wages shall be less that the rate for "Laborer (Common)".

TEXAS COUNTIES IDENTIFIED BY WAGE RATE ZONES: 27, 28, 29, 30, 31, 41, 43, 45, 46, 118, 119, 120, 125

County Name	ZONE	County Name	ZONE	County Name	ZONE	County Name	ZONE
Anderson	45	Donley	120	Karnes	125	Reagan	120
Andrews	120	Duval	119	Kaufman	43	Real	120
Angelina	45	Eastland	120	Kendall	125	Red River	45
Aransas	125	Ector	28	Kenedy	119	Reeves	27
Archer	120	Edwards	27	Kent	120	Refugio	125
Armstrong	120	Ellis	43	Kerr	125	Roberts	120
Atascosa	125	El Paso	31	Kimble	120	Robertson	45
Austin	125	Erath	45	King	120	Rockwall	43
Bailey	120	Falls	45	Kinney	27	Runnels	120
Bandera	125	Fannin	45	Kleberg	125	Rusk	45
Bastrop	125	Fayette	125	Knox	120	Sabine	45
Baylor	120	Fisher	120	Lamar	45	San Augustine	45
Bee	125	Floyd	120	Lamb	120	San Jacinto	45
Bell	41	Foard	120	Lampasas	120	San Patricio	118
Bexar	41	Fort Bend	46	LaSalle	119	San Saba	120
Blanco	125	Franklin	45	Lavaca	125	Schleicher	120
Borden	120	Freestone	45	Lee	125	Scurry	120
Bosque	45	Frio	125	Leon	45	Shackelford	120
Bowie	30	Gaines	120	Liberty	46	Shelby	45
Brazoria	46	Galveston	46	Limestone	45	Sherman	120
Brazos	41	Garza	120	Lipscomb	120	Smith	30
Brewster	27	Gillespie	125	Live Oak	125	Somervell	45
Briscoe	120	Glasscock	120	Llano	125	Starr	119
Brooks	119	Goliad	125	Loving	120	Stephens	120
Brown	120	Gonzales	125	Lubbock	28	Sterling	120
Burleson	45	Gray	120	Lynn	120	Stonewall	120
Burnet	125	Grayson	43	Madison	45	Sutton	27
Caldwell	125	Gregg	30	Marion	45	Swisher	120
Calhoun	125	Grimes	45	Martin	120	Tarrant	43
Callahan	120	Guadalupe	41	Mason	125	Taylor	28
Cameron	29	Hale	120	Matagorda	125	Terrell	27
Camp	45	Hall	120	Maverick	119	Terry	120
Carson	120	Hamilton	45	McCulloch	120	Throckmorton	120
Cass	45	Hansford	120	McLennan	41	Titus	45
Castro	120	Hardeman	120	McMullen	119	Tom Green	28
Chambers	46	Hardin	46	Medina	125	Travis	41
Cherokee	45	Harris	46	Menard	120	Trinity	45
Childress	120	Harrison	30	Midland	28	Tyler	45
Clay	120	Hartley	120	Milam	45	Upshur	45
Cochran	120	Haskell	120	Mills	120	Upton	120
Coke	120	Hays	41	Mitchell	120	Uvalde	119
Coleman	120	Hemphill	120	Montague	120	Val Verde	27
Collin	43	Henderson	45	Montgomery	46	Van Zandt	45
Collingsworth	120	Hidalgo	29	Moore	120	Victoria	118
Colorado	125	Hill	45	Morris	45	Walker	45
Comal	41	Hockley	120	Motley	120	Waller	46
Comanche	120	Hood	45	Nacogdoches	45	Ward	120
Concho	120	Hopkins	45	Navarro	45	Washington	45
Cooke	120	Houston	45	Newton	45	Webb	29
Coryell	41	Howard	120	Nolan	120	Wharton	125
Cottle	120	Hudspeth	27	Nueces	118	Wheeler	120
Crane	120	Hunt	45	Ochiltree	120	Wichita	43
Crockett	27	Hutchinson	120	Oldham	120	Wilbarger	120
Crosby	120	Irion	120	Orange	46	Willacy	119
Culberson	27	Jack	45	Palo Pinto	45	Williamson	41
Dallam	120	Jackson	125	Panola	45	Wilson	125
Dallas	43	Jasper	45	Parker	43	Winkler	120
Dawson	120	Jeff Davis	27	Parmer	120	Wise	45
Deaf Smith	120	Jefferson	46	Pecos	27	Wood	45
Delta	45	Jim Hogg	119	Polk	45	Yoakum	120
Denton	43	Jim Wells	125	Potter	28	Young	120
DeWitt	125	Johnson	43	Presidio	27	Zapata	119
Dickens	120	Jones	120	Rains	45	Zavala	119
Dimmit	119			Randall	28		

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